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of Transportation

United States
Coast Guard



Navigation Rules Course

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NAVIGATION RULES COURSE

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QUESTIONS ABOUT THIS TEXT SHOULD BE
ADDRESSED TO THE SUBJECT MATTER SPECIALIST
FOR THE QUARTERMASTER RATING

Reference

Reference

This pamphlet contains original material developed at the Coast Guard Training Center, Yorktown, Virginia, and excerpts from the following publication:

"Navigation Rules" COMDTINST M16672.2 (series)

Notice to Students

Purpose	This pamphlet serves as a training aid to provide you with a general knowledge of Navigation Rules.
Important Note	This text has been compiled for TRAINING ONLY. It should NOT be used in place of official directives or publications. The test information is current according to the references listed. You should, however, remember that it is YOUR responsibility to keep up with the latest professional information available for your rating. Current information is available from the Enlisted Qualifications Manual, COMDTINST M1414.8 (series).
Course Content	This course content is based on the requirements stated in the Enlisted Qualifications Manual, COMDTINST M1414.8 (series).
Pamphlet Content	<p>This pamphlet contains five lessons:</p> <p>Lesson 1 Part A -- General</p> <p>Lesson 2 Part B -- Steering and Sailing Rules</p> <p>Lesson 3 Part C -- Lights and Shapes</p> <p>Lesson 4 Part D -- Sound and Light Signals</p> <p>Lesson 5 Part E -- Exemptions</p>
Learning Objectives	Read the learning objectives before you begin reading the text. The objectives will guide you through the text and help you answer the questions in the self-quiz at the end of each lesson.

Notice to Students

Quizzes

Each lesson has a self-quiz and the pamphlet has a pamphlet review quiz. You will find the answers to each quiz on the pages following the quiz. Included are the reference pages or rule for the answers.

These self-quizzes are meant to check your comprehension of the material you covered. If you are having problems understanding a section, go through it again or ask someone for help. The pamphlet review quiz questions are samples of the type of questions you will find on the end-of-course-test (EOCT).

Many students study **ONLY** the self-quizzes, thinking that will be enough to pass the end-of-course test (EOCT). **THIS IS NOT TRUE.** The EOCT is based on stated objectives. To pass the EOCT, you must study all the course material.

SWE Study Suggestion

Servicewide exam questions for your rate and pay grade are based on the Professional and Military Requirements sections of the Enlisted Qualifications Manual, COMDTINST M1414.8 (series).

If you use the references from this text and consult the Enlisted Qualifications Manual, you should have good information for review when you prepare for your servicewide exam (SWE).

How the Course is Designed

This course is designed to turn your "Navigation Rules" book, COMDTINST M16672.2D, into a valuable study guide. It is not designed to take the place of studying the rules in the "Navigation Rules" book.

You will be instructed to highlight the main topics, underline the important information, circle the special key words or numbers, and add written comments and illustrations in your copy of the "Navigation Rules" book.

Learning what the rules are is just the beginning. You must also be able to apply this knowledge to a situation encountered on the water. The last section of each lesson contains an exercise in applying the rules. It requires you to look at the rules as a whole and determine the proper solution to the questions.

Notice to Students

Special Terms

Before beginning, you need to remember that even though some **Inland Rules** may closely resemble the corresponding **International Rule**, many times the specific words used change the meaning of the rule entirely. The following words and phrases are used throughout the course and warrant special consideration:

- **“May”** – A vessel has an option
 - **“Must”** or **“Shall”** – a vessel must comply
 - **“If Practicable”** – if circumstance or situation allows
 - **“Any”** – all or everything imaginable
 - **“Except”** – states some type of exclusion or waiver
 - **“Assume”** or **“Assumption”** – it is believed to be
-

Procedure

Follow these steps to properly complete this course.

Step	Action
1	Read each objective at the beginning of each lesson.
2	Read the pages in the “Navigation Rules” book given in the reading assignment.
3	Highlight, underline, or circle the text where indicated, and add whatever information the course pamphlet directs you to add on each page of the “Navigation Rules” book.
4	Review the objectives again at the beginning of the lesson and locate the information from the highlighted pages of the “Navigation Rules” book.
5	Complete the self-quiz after each lesson.
6	Complete the exercise in applying the rules after each lesson.
7	Complete the pamphlet review quiz at the end of the course.

Your copy of the “Navigation Rules” book is now personalized to make it your source to study for the end-of-course test.

Notice to Students

What Exam to Take

The following shows the exams available to you through the Coast Guard Institute. Choose the exam that meets the requirements for your watch station, position, or rating.

IF YOU ARE:	EXAM TITLE	MAINTAINED AT	PASSING SCORE	ORDERED BY
U/W OOD FOR ALL CUTTERS	DWO	G-MVP-5	90%	UNIT ESO
“A” SCHOOL STUDENT	NAVRUL	TRAINING CENTER	90%	N/A
COXN’ AND ALL OTHERS	NAVRUL	CG INSTITUTE	90%	UNIT ESO

NOTE: The NAVRUL exam is administered closed book the very first time you take it. If you achieve a passing score, each renewal test will be administered open book. You should make "Notice to Mariners" corrections to keep your book up-to-date. Using your corrected, highlighted and underlined copy of the "Navigation Rules" book is recommended and allowed during an open book test.

Computer Aids

There are numerous commercially produced products and Internet sites available to assist you in learning the Navigation Rules. However, the student is cautioned that the end-of-course test is based on this pamphlet and COMDTINST M16672.2D.

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Lesson 1

PART A - GENERAL

Overview

Introduction

This lesson covers the general Rules of the Road as found in Part A of the “Navigation Rules” book. It contains rules 1 through 3 that establish the basic foundation for subsequent rules.

Objectives

After completing this lesson, you will be able to:

- **STATE** how to locate specific information in the “Navigation Rules” book.
 - **STATE** where the International Rules are located in the book.
 - **STATE** where the Inland Rules are located in the book.
 - **STATE** where International Rules apply.
 - **STATE** where Inland Rules apply.
 - **STATE** which rules the special rules for inland waterways should conform with as closely as possible.
 - **STATE** whether a vessel complying with the construction and equipment requirements of the International Regulation is in compliance with Inland Rules.
 - **STATE** the three types of vessels that special rules may be made for.
 - **DESCRIBE** the special identification light a submarine may use.
 - **STATE** what types of vessels may deviate from the exact provisions of these rules concerning lights, shapes, and sound signaling devices.
 - **LIST** who is held responsible to both follow the Rules and take all precaution to avoid danger.
 - **STATE** when a vessel may depart from the Rules.
 - **STATE** the three conditions that define the term “underway.”
-

Overview

Objectives (Continued)

- **STATE** the definition of the term “length” as it refers to a vessel.
 - **STATE** the definition of the term “breadth” as it refers to a vessel.
 - **STATE** what is meant by “vessels in sight of one another.”
 - **LIST** six causes that might restrict visibility.
 - **MATCH** types of vessels with their definitions and descriptions.
-

In This Lesson

This lesson covers the following topics:

Topic	See Page
The “Navigation Rule” Book	1-3
Application	1-5
Responsibility	1-8
General Definitions	1-9
Illustrations	1-15
Self-Quiz	1-17
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Answers to Exercise	1-24

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 2 to 11, **Rules 1-3**

The “Navigation Rules” Book

Introduction

The “Navigation Rules,” COMDTINST M16672.2D is a publication for the nautical Rules of the Road. Every person who is required to know the nautical Rules of the Road should first be familiar with the basic design of the book. Not only will this help you in studying the rules, it will be useful on occasions in the field to assist you in quickly locating important information.

Chapters

The “Navigation Rules” book is separated into 10 areas:

- Introduction
 - Legal Citations
 - Conversion Table
 - Navigation Rules and Regulations
 - Interpretive Rules
 - COLREGS Demarcation Lines
 - Penalty Provisions
 - Alternative Compliance
 - Waters Specified by the Secretary
 - Vessel Bridge-to-Bridge Radiotelephone Regulations
-

Table of Contents

By using the table of contents in the front of the book, you will discover that the second area is broken down into five **parts**. Each part is labeled alphabetically A through E. Within each part are the individual rules that are numbered 1 to 38. Part E consists of five **annexes**. In addition, Part B is further divided into three **sections/subparts**. Using the table of contents is the quickest way to locate specific information in this “Navigation Rules” book.

The “Navigation Rules” Book

Page Format for Rules

Upon entering the rules portion of the book, you’ll discover that the page format is easy to follow as shown below.

<p style="text-align: center;">International <i>Steering and Sailing Rules</i> Rule 5 <i>Look-out</i></p> <p>Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision</p> <p style="text-align: center;">12</p>	<p style="text-align: center;">Inland <i>Steering and Sailing Rules</i> Rule 5 <i>Look-out</i></p> <p>Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision</p> <p style="text-align: center;">13</p>
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The left-handed (even-numbered) pages contain the International Rules and the right-handed (odd-numbered) pages contain the Inland Rules. The top of the page has the name of the part followed by the rule number and the topic of that rule beneath it.

Annex Format

The Inland Annexes use the Code of Federal Regulations (CFR) number (i.e., 84.01) to identify each topic area, while the International Annexes number them sequentially.

Application

Background

This section presents an overview of Rule 1 in the “Navigation Rules” book. The safe navigation of a vessel on any waters is subject to internationally accepted rules. Rule 1 introduces you to the accepted International Rules and also identifies the Inland Rules established by the United States.

INTERNATIONAL

INLAND

Rule 1(a)

HIGHLIGHT: Rules, and to

UNDERLINE: all vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels

NOTE: High seas are waters outside demarcation lines.

HIGHLIGHT: Rules apply to

UNDERLINE: all vessels upon the inland waters of the United States, and to vessels of the United States on the Canadian waters of the Great Lakes

NOTE: Inland waters are inside demarcation lines.

Rule 1(b)

HIGHLIGHT: special rules

UNDERLINE: shall conform as close as possible to these Rules

(i) **HIGHLIGHT:** These Rules

UNDERLINE: constitute special rules

(ii) **HIGHLIGHT:** All vessels

UNDERLINE: complying with the construction and equipment requirements of the International Regulations are considered to be in compliance with these Rules

Application

INTERNATIONAL

INLAND

Rule 1 (c)

HIGHLIGHT: Nothing in these Rules shall interfere with

UNDERLINE: special rules, and with respect to, and ships of war, and vessels proceeding under convoy, and fishing vessels engaged in fishing as a fleet

On footnote **HIGHLIGHT:** Submarines

UNDERLINE: may display, and intermittent flashing amber (yellow) beacon, and one flash per second for three (3) seconds followed by a three (3) second off-period

HIGHLIGHT: Nothing in these Rules shall interfere with

UNDERLINE: special rules, and with respect to, and ships of war, and vessels proceeding under convoy, and fishing vessels engaged in fishing as a fleet

On footnote **HIGHLIGHT:** Submarines

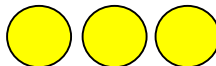
UNDERLINE: may display, and intermittent flashing amber (yellow) beacon, and one flash per second for three (3) seconds followed by a three (3) second off-period

Submarine identification light.

AMBER (YELLOW)



MEMORY AID: Three short flashes are the Morse code symbol for the letter "S," as in (submarine).



Application

	INTERNATIONAL	INLAND
Rule 1 (e)	<p>HIGHLIGHT: Whenever, and a vessel of special construction or purpose</p> <p>UNDERLINE: <u>cannot comply fully, and such vessel shall comply, and closest possible compliance</u></p> <p>EXAMPLE: Aircraft carriers are unable to place lights on their centerline due to their flight deck.</p>	<p>HIGHLIGHT: Whenever, and a vessel or class of vessels of special construction or purpose</p> <p>UNDERLINE: <u>cannot comply fully, and the vessel shall comply, and closest possible compliance</u></p> <p>EXAMPLE: Aircraft carriers are unable to place lights on their centerline due to their flight deck.</p>

Responsibility

Background

This section presents an overview of Rule 2 in the “Navigation Rules” book. Recognizing that no body of rules can cover every possible situation, the mariner is directed to be alerted to special circumstances that may require a breach of other rules to avoid danger. When the rules do not cover a particular situation, the mariner must take whatever precaution is consistent with the **“Practice of Good Seamanship.”**

INTERNATIONAL

INLAND

Rule 2 (a)

HIGHLIGHT: **comply with these Rules**

Rule 2 (a) is the same as International.

UNDERLINE: vessel, and owner, master or crew

NOTE: This rule holds **EVERYONE** responsible to follow the rules and take every precaution to avoid danger.

Rule 2 (b)

HIGHLIGHT: **may make a departure from these Rules necessary to avoid immediate danger**

Rule 2 (b) is the same as International.

UNDERLINE: all dangers of navigation and collision and to any special circumstances, including the limitations of the vessels involved

General Definitions

Background

This section presents an overview of Rule 3 in the “Navigation Rules” book. You must understand these terms and definitions to carry out the provisions of all the rules that follow.

INTERNATIONAL

INLAND

Rule 3 (a)

HIGHLIGHT: “vessel”

Rule 3 (a) is the same as International.

UNDERLINE: every description, and used, and as means of transportation on water

NOTE: Vessels include **ALL** craft designed to transport persons or cargo.

Rules 3 (b)

HIGHLIGHT: “power-driven vessel”

Rule 3 (b) is the same as International.

UNDERLINE: propelled by machinery

NOTE: This means any vessel with **engines or motors** used in moving a vessel through the water.

Rule 3 (c)

HIGHLIGHT: “sailing vessel”

Rule 3 (c) is the same as International.

UNDERLINE: under sail, and propelling machinery, if fitted, is not being used

CIRCLE: not

NOTE: This means any vessels moved through the water by **sails only** (motors used for generators do not constitute propelling machinery).

General Definitions

INTERNATIONAL

INLAND

Rule 3 (d)

HIGHLIGHT: “vessel engaged in fishing”

Rule 3 (d) is the same as International.

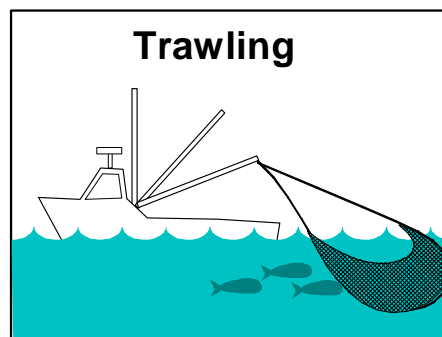
UNDERLINE: with nets, lines, trawls or other fishing apparatus which, and does not include, and trolling

DOUBLE UNDERLINE: restrict maneuverability

NOTE: The term “vessel engaged in fishing” includes fishing vessels such as:

- Gill Netters
- Shrimpers
- Longliners

NOTE: It **Does Not** include sport fishing vessels or vessels using only rod and reels. This is referred to as **TROLLING** and does not restrict the vessel’s maneuverability.



Rule 3 (e)

HIGHLIGHT: “seaplane”

Rule 3 (e) is the same as International.

UNDERLINE: aircraft designed to maneuver on the water



Seaplane

General Definitions

INTERNATIONAL

INLAND

Rule 3 (f)

HIGHLIGHT: “vessel not under command”

Rule 3 (f) is the same as International.

UNDERLINE: unable to maneuver as required

NOTE: The term “vessel not under command” includes vessels that cannot maneuver due to a steering casualty or engine casualty and sailing vessels which have lost sails.

Rule 3 (g)

HIGHLIGHT: “vessel restricted in her ability to maneuver”

Rule 3 (g) is the same as International.

DOUBLE UNDERLINE: from the nature of her work

UNDERLINE: is restricted in her ability to maneuver

EXAMPLE: Below is a list of vessels that fit this category:

- Buoy tender servicing aids
- Dive boat with diver down
- Vessels conducting underway replenishment
- Vessel conducting helicopter operations
- Vessel engaged in mine clearance operations *
- A tug towing several barges that cannot change course
- ***NOTE:** This vessel has special lights, unlike the others.



Buoy tender servicing aids to navigation (notice the day shapes)

General Definitions

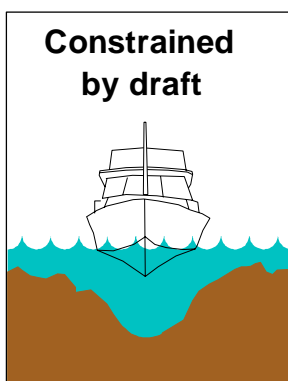
INTERNATIONAL

INLAND

Rule 3 (h)

HIGHLIGHT: “vessel
constrained by draft”

UNDERLINE: a power-driven vessel which, because of her draft, and is severely restricted in her ability to deviate from the course



NOTE: Consideration of both depth of water and width of the channel should be used as factors to determine whether a vessel may be regarded as constrained by draft.

INSERT: (After Rule 3 (g)(vi) and before Rule 3 (h).)

NOTE: *"Constrained by draft is not applicable – Inland"*

Rule 3 (i)

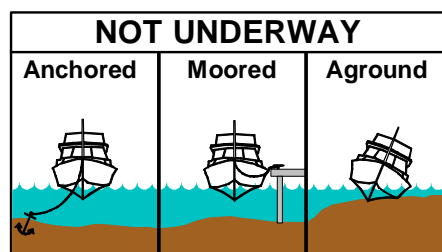
HIGHLIGHT: “underway”

UNDERLINE: not at anchor, or made fast to the shore, or aground

NOTE: “Underway, making way” means moving through the water under power (steaming).

“Underway, **not** making way” means moving through the water not under power (a vessel adrift).

International Rule 3 (i) is the same as Inland Rule 3 (h).



General Definitions

INTERNATIONAL

INLAND

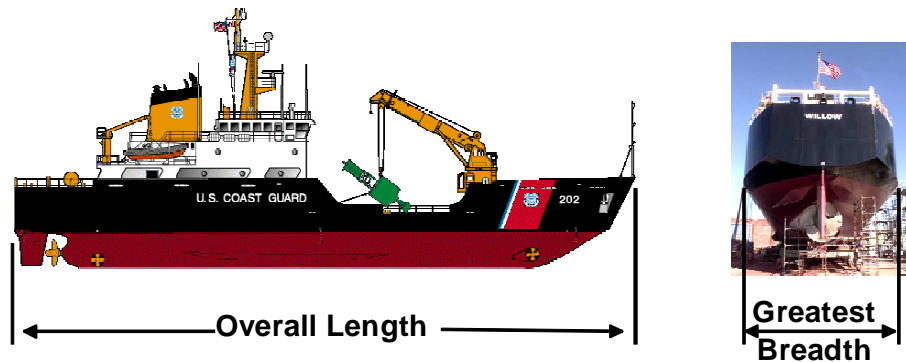
Rule 3 (j)

HIGHLIGHT: “length” and
“breadth”

International Rule 3 (j) is the same
as Inland Rule 3 (i).

UNDERLINE: length overall,
and greatest breadth

Illustration of length overall and widest breadth.



Rule 3 (k)

HIGHLIGHT: in sight of one
another

International Rule 3 (k) is the
same as Inland Rule 3 (j).

UNDERLINE: one can be
observed visually from the other

NOTE: This does not include a
vessel observed by radar or one
that you hear or smell.

General Definitions

INTERNATIONAL

INLAND

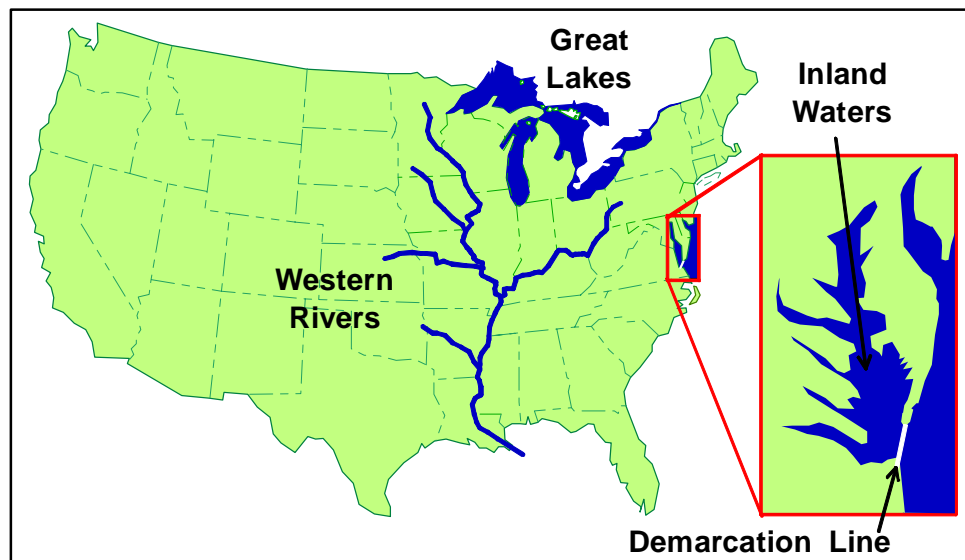
Rule 3 (l)

HIGHLIGHT: “restricted visibility”

International Rule 3 (l) is the same as Inland Rule 3 (k).

UNDERLINE: fog, mist, falling snow, heavy rainstorms, or any other similar causes

NOTE: Inland Rules 3 (l) through (q) are not contained in International Rules.



Illustrations

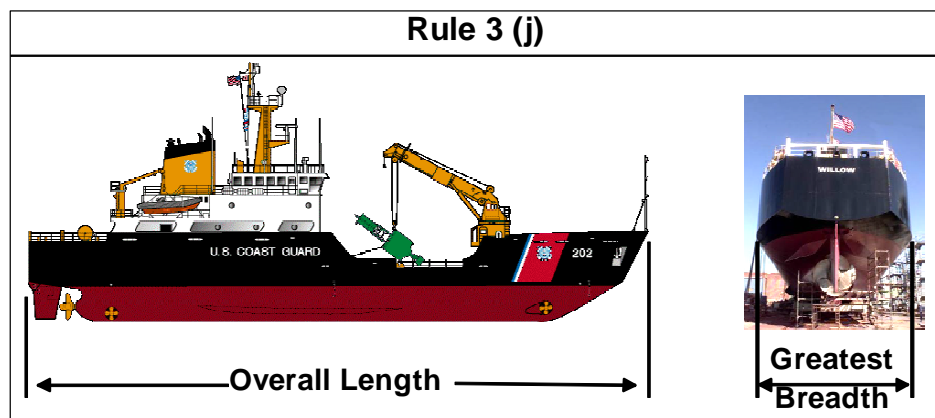
Instructions

Cut out the following illustrations and place them on the pages indicated.

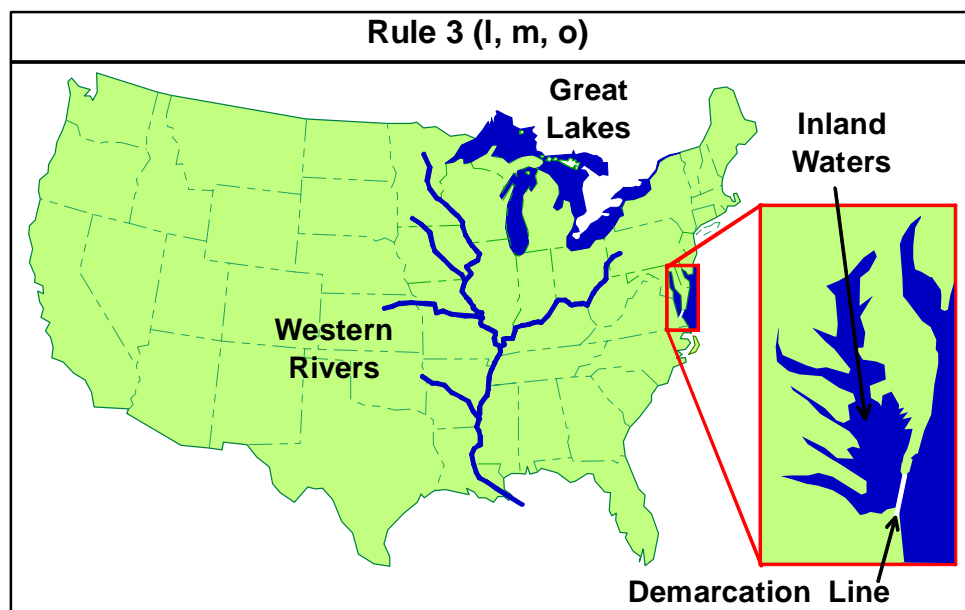
On Page 2



On Page 8



On Page 10



Self-Quiz

Questions

1. The best way to locate specific information in the "Navigation Rules" book is _____.
 2. In the "Navigation Rules" book, International Rules are located _____.
 3. In the "Navigation Rules" book, Inland Rules are located _____.
 4. Describe where International Rules apply.
 5. Describe where Inland Rules apply.
 6. What other rules should special rules for inland waterways conform with as closely as possible?
 7. Does a vessel complying with the construction and equipment requirements of the International Regulations comply with Inland Rules?
 8. Special rules may be made for what three types of vessels?
 9. Describe the special identification light a submarine may use.
 10. What types of vessels may deviate from the exact provisions of these Rules concerning lights, shapes, and sound signaling appliances?
 11. List who is held responsible for following the Rules and taking all precautions to avoid danger.
 12. When may a vessel depart from the Rules?
 13. What are the three conditions that define the term "underway"?
 14. Length refers to length _____.
 15. Breadth refers to _____ breadth.
 16. In sight of one another means _____.
 17. List six causes that might restrict visibility.
-

Self-Quiz

Questions (Continued)

18. Match the terms in column A with their definitions in column B.
Use each description only once.

Column A

Column B

- | | |
|---|--|
| _____ 1. vessel | a. unable to maneuver as required |
| _____ 2. fishing vessel | b. vessel propelled by machinery |
| _____ 3. power-driven vessel | c. vessel which from the nature of its work is unable to keep out of the way of another vessel |
| _____ 4. sailing vessel | d. aircraft designed to maneuver on water |
| _____ 5. vessel restricted in maneuverability | e. a vessel propelled by wind only |
| _____ 6. vessel not under command | f. watercraft used as a means of transportation |
| _____ 7. vessel constrained by her draft | g. severely restricted in ability to deviate from course due to depth and width of navigable water |
| _____ 8. seaplane | h. vessel with trolling lines |
| | i. fishing with nets which restrict maneuverability |
-

Answers to Self-Quiz

Question	Answer	Page
1	by using the table of contents	1-3
2	on the left-hand pages	1-4
3	on the right-hand pages	1-4
Question	Answer	Rule
4	All vessels upon the high seas and in all waters connected therewith navigable by seagoing vessels.	1(a)
5	All vessels upon the inland waters of the United States and U.S. vessels on the Canadian waters of the Great Lakes.	1 (a)
6	International Rules	1 (b)
7	yes	1 (b)(ii)
8	warships ships in convoy fishing vessels working in a fleet	1 (c)
9	an amber (yellow) beacon showing three (1) second flashes followed by a three second off-period	1 (c) (footnote)
10	vessels of special construction or purpose which cannot comply fully	1 (e)
11	vessel owner master crew	2 (a)
12	When dangers to navigation, possibility of collision, special circumstances, and limitations of vessels involved may make departure necessary to avoid immediate danger.	2 (b)
13	not at anchor not made fast to the shore not aground	3 (i)/3 (h)
14	overall	3 (j)/3 (i)
15	greatest	3 (j)/3 (i)

Answers to Self-Quiz

Question	Answer	Rule
16	when one can be observed visually from the other	3 (k)/3 (j)
17	fog mist falling snow heavy rainstorms sand storms any other similar causes	3 (l)/3 (k)
18	1. f 2. i 3. b 4. e 5. c 6. a 7. g 8. d	3(a-g)

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in this section and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. Place an "X" in the columns below (Inland Rules or International Rules) as appropriate to complete the sentences.

INLAND RULES	INTERNA- TIONAL RULES	ITEM
		are located on right-hand or odd-numbered pages.
		allow for special rules made by the Secretary.
		state where vessel traffic services (VTS) may be in effect.
		defines a vessel constrained by draft.
		apply outside demarcation lines.

2. To avoid immediate danger, an OOD may _____ from the Rules.
3. The term "restricted in ability to maneuver" includes vessels engaged in what six activities?
4. When a vessel is required to stay in the deepest part of a channel due to draft, it is considered _____.
5. A vessel not moored, at anchor, or aground is considered to be _____.
6. The Rules that apply on the high seas are the _____.
7. A special flashing amber light characterized by three distinctive flashes followed by a 3-second off period may be displayed by a _____.
8. Special rules may be made by nations for special lights and shapes for what three types of vessels?
-

Answers to Exercise

Question

Answer

1

INLAND RULES	INTERNA TIONAL RULES	ITEM
X		are located on right-hand or odd numbered pages.
X		allow for special rules made by the Secretary.
X		state where vessel traffic services (VTS) may be in effect.
	X	defines a vessel constrained by draft.
	X	apply outside demarcation lines.

Rule

2	depart	2 (b)
3	servicing navigation mark/cable dredging/diving replenishment launching/recovering aircraft mine clearance towing where it cannot deviate from course	3
4	constrained by draft	3
5	underway	3
6	International Rules	1(a)
7	submarine	1(c)
8	fishing vessel convoys warships	1(c)

LESSON 2

PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson deals with the steering and sailing rules to be followed regardless of visibility or location. That means these rules apply ALL of the time, whether the visibility is clear or restricted. It includes Rules 4 through 8.

Objectives

After completing this lesson, you will be able to:

- **STATE** the three means by which a vessel maintains a proper look-out.
 - **STATE** the six factors that are used to determine safe speed by all vessels.
 - **STATE** the six factors that are used to determine safe speed by vessels with operational radar.
 - **STATE** what every vessel should use to determine if risk of collision exists.
 - **STATE** the two proper uses of radar equipment in determining if risk of collision exists.
 - **STATE** the four considerations to be taken into account in determining if risk of collision exists.
 - **STATE** the three types of action that shall be taken to avoid collision when action is required.
 - **STATE** what degree of alteration in course and/or speed shall be taken to avoid collision.
 - **STATE** the three provisions that should be made if alteration of course alone is used to avoid a close-quarters situation.
 - **STATE** the three actions a vessel shall take, if necessary, to avoid collision or allow more time to assess the situation.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application & Look-Out	2-3
Safe Speed	2-4
Risk of Collision	2-7
Action to Avoid Collision	2-9
Self-Quiz	2-12
Answers to Self-Quiz	2-14
Exercise in Applying the Rules	2-15
Answers to Exercise	2-18

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 12 to 19, **Rules 4-8**

Application & Look-Out

Background

This section presents an overview of Rules 4 & 5 in the "Navigation Rules" book. Keeping a proper look-out is often termed the first rule of seamanship.

You can only determine what a proper look-out is after each situation has been assessed. You must consider all relevant factors including but not limited to weather, visibility, traffic density, and proximity of navigational hazards.

This rule emphasizes that a look-out uses more than just sight to do the job. It also allows for judgement in determining how many persons are needed to properly perform the job of look-out.

INTERNATIONAL

INLAND

Rule 4

HIGHLIGHT: any condition of visibility

Rule 4 is the same as International.

NOTE: Any condition of visibility could be clear, dark, haze, fog, rain, etc.

Rule 5

HIGHLIGHT: vessel, and at all [redacted], and look-out

Rule 5 is the same as International.

UNDERLINE: sight, and hearing, and all available means

NOTE: Maintain a proper look-out by **ALL available means appropriate** includes sight, smell, hearing, taste, as well as use of binoculars or radar.

Do not confuse with terms associated with "in sight."

As a general rule, look-outs should be posted as low and as far forward as possible.

Safe Speed

Background

This section presents an overview of Rule 6 in the "Navigation Rules" book. On land, speed limits are posted for everyone's safety. At sea, each vessel's crew must constantly analyze what a safe speed is, taking several factors into account. Speed in any situation is intimately related to the immediate circumstances at hand. Prudent mariners must use their best judgement in determining what constitutes a safe speed for a vessel in order to avoid collision.

INTERNATIONAL

INLAND

Rule 6

HIGHLIGHT: take proper and effective action, and be stopped, and determining a safe speed

Rule 6 is the same as International.

UNDERLINE: so that she can,
and to avoid collision

Safe Speed

	INTERNATIONAL	INLAND
Rule 6 (a)	<p>HIGHLIGHT: <u>determining a safe speed</u>, and <u>By all vessels</u></p> <p>(i) UNDERLINE: <u>state of visibility</u></p> <p>NOTE: State of visibility can be clear, dark, rainy, etc.</p> <p>(ii) UNDERLINE: <u>traffic density</u></p> <p>NOTE: Density is the number of vessels in an area.</p> <p>(iii) UNDERLINE: <u>maneuverability</u>, and <u>stopping distance and turning ability</u></p> <p>NOTE: Maneuverability is a ship's ability to turn, stop, back down, etc.</p> <p>(iv) UNDERLINE: <u>background light</u></p> <p>NOTE: Lights on shore may hide a vessel's lights. In addition, your own navigational lights may hinder your night vision when you are looking for other vessels at night.</p> <p>(v) UNDERLINE: <u>wind, sea and current</u>, and <u>hazards</u></p> <p>(vi) UNDERLINE: <u>draft</u></p> <p>NOTE: In areas of shoals or narrow channels, you may not have the luxury of altering course. Your only option is slowing your speed or stopping.</p>	<p>Rule 6 (a) is the same as International.</p>

Safe Speed

	INTERNATIONAL	INLAND
Rule 6 (b)	<p>HIGHLIGHT: vessels with operational radar</p> <p>(i) UNDERLINE: <u>characteristics, efficiency and limitations</u></p> <p>NOTE: Characteristics of radar equipment include, but aren't limited to:</p> <ul style="list-style-type: none">• Range scales available• Target acquisition• How well system is tuned <p>(ii) UNDERLINE: <u>radar range scale</u></p> <p>(iii) UNDERLINE: <u>sea state, weather, and interference</u></p> <p>(iv) UNDERLINE: <u>small vessels, ice and other floating objects may not be detected</u></p> <p>(v) UNDERLINE: <u>number, location, and movement of vessels</u></p> <p>NOTE: Simultaneous plotting of several vessels at close range may become confusing.</p> <p>(vi) UNDERLINE: <u>assessment of the visibility</u></p> <p>NOTE: One way of assessing visibility is to measure distance to the contact using your radar.</p>	<p>Rule 6 (b) is the same as International.</p>

Risk of Collision

Background

This section presents an overview of Rule 7 in the "Navigation Rules" book. This rule gives guidance on how to determine if a risk of collision exists between your vessel and another.

INTERNATIONAL

INLAND

Rule 7(a)

HIGHLIGHT: Every vessel, and to determine if risk of collision exists

Rule 7 (a) is the same as International.

UNDERLINE: all available means, and any doubt, and shall be deemed to exist

NOTE: All available means includes eyes, ears, nose, radar, etc.

If in **doubt** of a chance of collision, always consider it possible.

Rule 7 (b)

HIGHLIGHT: Proper use, and of radar equipment

Rule 7 (b) is the same as International.

UNDERLINE: if fitted and operational, and long-range scanning, and radar plotting, and systematic observation

Rule 7 (c)

HIGHLIGHT: Assumptions

Rule 7 (c) is the same as International.

UNDERLINE: shall not be made, and scanty radar information

CIRCLE: not

NOTE: Don't make decisions based on only bits and pieces of information. GET THE WHOLE PICTURE FIRST!!!

Risk of Collision

	INTERNATIONAL	INLAND
Rule 7 (d)	<p>HIGHLIGHT: determining if risk of collision exists, and considerations</p> <p>(i) HIGHLIGHT: compass bearing</p> <p>UNDERLINE: <u>does not appreciably change</u></p> <p>(ii) HIGHLIGHT: risk may sometimes exist even when an appreciable bearing change is evident</p> <p>UNDERLINE: <u>very large vessel or a tow, and vessel at close range</u></p> <p>NOTE: This rule covers the basic rule: <u>C</u>onstant <u>B</u>earing, <u>D</u>ecreasing <u>R</u>ange (CBDR), which means a risk of collision exists.</p> <p>Example: While your vessel maintains course and speed, the bearing of an approaching vessel remains constant. To accurately determine this, you must take the bearing from the same prominent point of the approaching vessel (mast, stack, etc.). However, at close range, risk of collision is still possible even if bearings change.</p>	Rule 7 (d) is the same as International.

Action to Avoid Collision

Background

This section presents an overview of Rule 8 in the "Navigation Rules" book. Once you have determined that a risk of collision exists, you need to know what action to take and at what time to take the action.

INTERNATIONAL

INLAND

Rule 8 (a)

HIGHLIGHT: action, and positive, and ample time, and observance of good seamanship

Rule 8 (a) is the same as International.

NOTE:

- Be **Positive:** (OBVIOUS, or large enough to recognize)
 - **Ample time:** (EARLY ENOUGH, before you are in a hazardous position)
 - **Observing good seamanship** (in accordance with the RULES and common sense)
-

Rule 8 (b)

HIGHLIGHT: alteration of course and/or speed

Rule 8 (b) is the same as International.

UNDERLINE: be large enough, and small alterations of course, and should be avoided

Rule 8 (c)

HIGHLIGHT: alteration of course alone

Rule 8 (c) is the same as International.

UNDERLINE: may, and made in good time, and substantial, and close-quarters situation

Action to Avoid Collision

	INTERNATIONAL	INLAND
Rule 8 (d)	UNDERLINE: <u>Action taken</u> , and <u>shall</u> , and <u>result in</u> , and <u>action shall be carefully checked until</u> , and <u>past and clear</u>	Rules 8 (d) is the same as International.
	HIGHLIGHT: passing at a safe distance	
Rule 8 (e)	HIGHLIGHT: If necessary to avoid collision, and to assess the situation	Rules 8 (e) is the same as International.
	UNDERLINE: <u>slacken her speed</u> , and <u>take all way off</u> , and <u>reversing</u>	
	NOTE: slacken speed = slow down take all way off = stop reversing = back down	

Action to Avoid Collision

	INTERNATIONAL	INLAND
Rule 8 (f)	(i) HIGHLIGHT: vessel, and take early action	Rules 8 (f) is the same as International.
	UNDERLINE: allow, and safe passage	
	NOTE: The GIVE-WAY vessel shall take early action to allow the stand-on vessel plenty of room.	
	(ii) HIGHLIGHT: not relieved of this obligation, and have full regard	
	NOTE: The GIVE-WAY vessel is obligated to stay clear of the stand-on vessel until risk of collision is past and clear.	
	(iii) HIGHLIGHT: remains fully obliged	
	NOTE: The STAND-ON vessel shall keep on its course and speed and NOT maneuver to cause the give-way vessel to be constantly attempting to stay clear.	

Self-Quiz

Questions

1. What are the three means by which a vessel maintains a proper lookout?
 2. What six factors are used to determine safe speed by all vessels?
 3. What are the six factors used to determine safe speed by vessels with an operational radar?
 4. What should every vessel use to determine if risk of collision exists?
 5. What are the two proper uses of radar equipment in determining if risk of collision exists?
 6. What four considerations should be taken into account in determining if risk of collision exists?
 7. What are the three types of action to be taken to avoid collision when action is required?
 8. What degree of alteration in course and/or speed shall be taken to avoid collision?
 9. What are the three provisions that should be made if alteration of course alone is used to avoid a close-quarters situation?
 10. What three actions should a vessel take if necessary to avoid collision or allow more time to assess the situation?
-

Answers to Self-Quiz

Question	Answer	Rule
1	sight hearing all available means	5
2	state of visibility traffic density maneuverability of the vessel background light (shore lights and back scatter) state of wind, sea and current, and proximity of navigational hazards draft of vessel	6(a)
3	characteristics, efficiency and limitations of equipment radar range scale used sea state, weather, and interference possibility of undetected floating objects number, location and movement of vessels assessment of visibility	6(b)
4	all available means	7(a)
5	long-range scanning radar plotting or equivalent systematic observation	7(b)
6	if the compass bearing does not change if the vessel approaching is very large if the vessel approaching is a tow if the vessel approaching is at close range	7(d)(i)(ii)
7	be positive in ample time observe good seamanship	8(a)
8	large enough to be readily apparent	8(b)
9	made in good time is substantial	8(c)
10	slacken speed take way off reversing	8(e)

Exercise in Applying the Rules

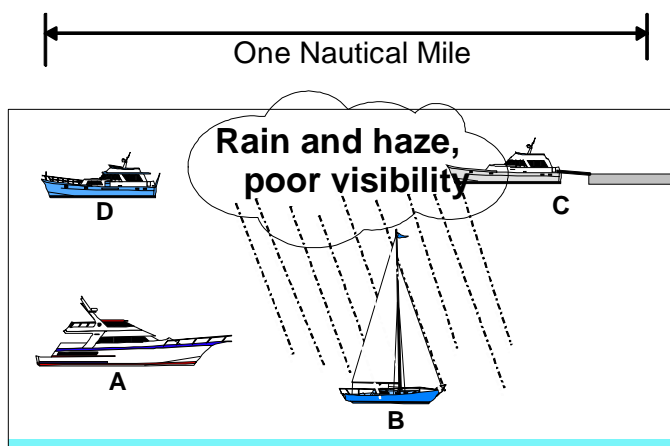
Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. Safe speed rules do NOT take into account _____.
 - A. vessel traffic
 - B. draft of the vessel
 - C. your vessel's radar
 - D. lookouts on vessels

Use the illustration below to answer questions 2 through 6.



2. Vessel "A" is in risk of collision with all vessels but _____.
 3. Vessel "A" may be in risk of collision. State a reason why vessel "A" may slacken speed while maneuvering near vessel "C."
 4. Vessel "A" is moving faster than vessel "B." Vessel "A" is required to _____.
 - A. alter course
 - B. slacken speed
 - C. make a radar assessment
 - D. take positive and early collision avoidance action
 5. Which vessels if any should consider slowing speed?
-

Exercise in Applying the Rules

Questions (Continued)

6. Vessel "C" is using radar in determining risk of collision with vessel "A" and "B." To best aid in this you should utilize _____.
 - A. radar plotting and scanty information
 - B. systematic observations and compass bearings
 - C. more lookouts and search lights
 - D. rapid radar and course changes
 7. When using radar, what three objects may not be detected?
 8. Place an "X" before the statement(s) which always involve a risk of collision.

_____ A. When a large contact is approaching at close range

_____ B. When in doubt to the intentions of other vessels

_____ C. When you have scanty information

_____ D. When radar contacts have increased range and bearing
 9. When avoiding a collision, always take action that is in observance of good seamanship, that is positive, and that is made _____.
 10. You are considered to be out of a possible collision situation once _____.
-

Answers to Exercise

Question	Answer	Rule
1	D	6
2	vessel "D"	8 (d)
3	state of visibility	7 (d)(ii), 6 (a)(i)
4	D	8 (a)
5	all but "D"	6 (a)
6	B	7 (b), 7 (d), 6 (b)(vi)
7	1. small vessels 2. ice 3. other floating objects	6 (b)
8	A, B, C	7
9	in ample time	8 (a)
10	you and the other vessel are past and clear	8 (d)

LESSON 2 - CONTINUED

PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson deals with the steering and sailing rules to be followed regardless of visibility but only within certain areas. These rules apply in clear or restricted visibility and only apply when in narrow channels or traffic schemes. It includes Rules 9 and 10.

Objectives

After completing this lesson, you will be able to:

- **STATE** what a vessel proceeding along the course of a narrow channel or fairway should do.
 - **STATE** the three items that pertain to a downbound vessel when encountering an upbound vessel in a narrow channel or fairway on certain inland waters.
 - **STATE** what an upbound vessel shall do when encountering a downbound vessel in a narrow channel or fairway on certain inland waters.
 - **STATE** what two types of vessels shall not impede a vessel which can safely navigate only within a narrow channel or fairway.
 - **STATE** what type vessel shall not impede the passage of any other vessel navigating within a narrow channel or fairway.
 - **STATE** when a vessel shall not cross a narrow channel or fairway.
 - **LABEL** the main parts associated with traffic separation schemes.
 - **STATE** the proper way to leave or join a traffic separation scheme.
 - **STATE** the proper way to leave or join a traffic separation scheme when joining from either side.
 - **STATE** the proper way to cross a traffic lane.
 - **STATE** the three types of vessels that may use an inshore traffic zone.
-

Overview

Objectives (Continued)

- **STATE** the two conditions that permit any vessel to use an inshore traffic zone.
 - **STATE** the four conditions that permit a vessel to enter a separation zone or cross a separation line.
 - **STATE** the two types of vessels that shall not impede the safe passage of a power-driven vessel.
-

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Narrow Channels	2-21
Traffic Separation Schemes	2-24
Illustrations	2-29
Self-Quiz	2-31
Answers to Self-Quiz	2-34
Exercise in Applying the Rules	2-36
Answers to Exercise	2-38

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 20 to 25, **Rules 9 & 10**

Narrow Channels

Background

This section presents an overview of Rule 9 in the "Navigation Rules" book. Because fairways and channels restrict a vessel's maneuverability, rules must be followed to ensure safe passing.

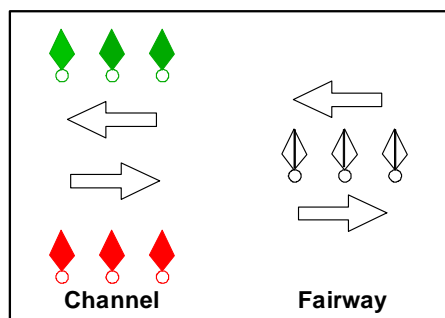
INTERNATIONAL

INLAND

Rule 9 (a)

HIGHLIGHT: proceeding along, and narrow channel or fairway

UNDERLINE: as near to the outer limit, and on her starboard side



NOTE: The wording of parts of Rule 9 (a) is the same as International, EXCEPT as listed below:

(ii) **HIGHLIGHT:** downbound, and upbound

UNDERLINE: shall have the right-of-way over, and shall propose the manner and place of passage, and shall initiate the maneuvering signals

HIGHLIGHT: vessel proceeding upbound

UNDERLINE: shall hold

Rule 9 (b)

HIGHLIGHT: less than 20 meters, and or a sailing vessel

UNDERLINE: shall not impede, and a vessel which can safely navigate only within

NOTE: "Vessels less than 20 meters," refers to power vessels only. It doesn't matter what length a sailing vessel is.

Rule 9 (b) is the same as International.

Narrow Channels

	INTERNATIONAL	INLAND
Rule 9 (c)	<p>HIGHLIGHT: engaged in fishing</p> <p>UNDERLINE: <u>shall not impede,</u> and <u>any other vessel</u></p>	<p>Rule 9 (c) is the same as International.</p>
Rule 9 (d)	<p>HIGHLIGHT: vessel shall not cross</p> <p>UNDERLINE: <u>if, and impedes,</u> and <u>a vessel which can safely</u> <u>navigate only within</u></p> <p>HIGHLIGHT: The latter vessel</p> <p>CIRCLE: may</p> <p>UNDERLINE: <u>use the sound</u> <u>signal, and if in doubt as to the</u> <u>intention</u></p> <p>ADD: (below "Rule 34 (d)" with a line pointing to it) "<i>Danger</i> <i>signal</i>"</p>	<p>NOTE: The wording of parts of Rule 9 (d) is the same as International, EXCEPT as listed below:</p> <p>HIGHLIGHT: The latter vessel</p> <p>CIRCLE: shall</p> <p>UNDERLINE: <u>use the danger</u> <u>signal, and if in doubt as to the</u> <u>intention</u></p>

Narrow Channels

INTERNATIONAL

INLAND

Rule 9 (e)

(i) **HIGHLIGHT:** when overtaking

UNDERLINE: can take place only if the vessel to be overtaken has to take action to permit safe passing

ADD: (in white space to left of "Rule 34 (c)(i)" with line pointing to it) "*Maneuvering signal*"

ADD: (in white space to left of "Rule 34 (c)(ii)" with line pointing to it) "*Agreement signal*"

UNDERLINE: take steps to permit safe passing

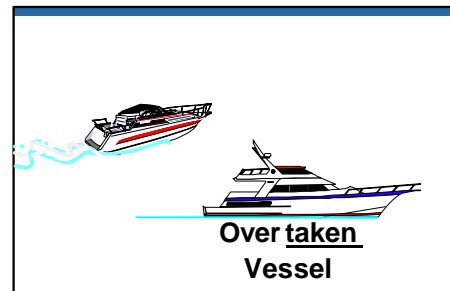
ADD: (after "Rule 34 (d)" with line pointing to it) "*Danger signal*"

Sound signals will be covered later.

(ii) **ADD:** (after "Rule 13") "*Keep out of overtaken vessels way*"

Rule 9 (e) is the same as International.

NOTE: Overtaking = Passing



NOTE: Overtaken = Being passed

Rule 9 (f)

HIGHLIGHT: nearing a bend or, and other vessels may be obscured

UNDERLINE: navigate with particular alertness and caution and shall sound the appropriate signal

ADD: (after "Rule 34 (e)") "*Bend signal*"

Rule 9 (f) is the same as International.

Rule 9 (g)

HIGHLIGHT: avoid anchoring

UNDERLINE: narrow channel

Rule 9 (g) is the same as International.

Traffic Separation Schemes

Background

This section presents an overview of Rule 10 in the "Navigation Rules" book. Traffic separation schemes are used when there is a lot of traffic transiting a relatively small area. The rules help to avoid confusion by directing where each vessel is going in the scheme.

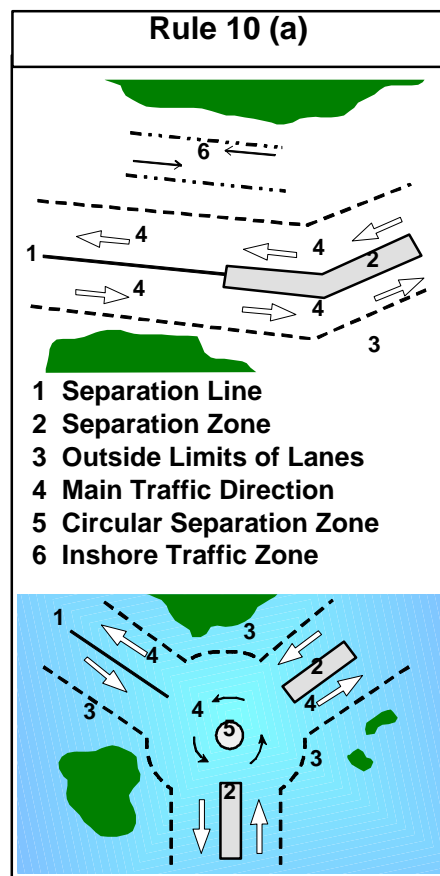
INTERNATIONAL

INLAND

Rule 10 (a)

The following illustrates the main part of a traffic separation scheme.

Rule 10 (a) is the same as International.



Traffic Separation Schemes

INTERNATIONAL

INLAND

Rule 10 (b)

UNDERLINE: A vessel, and shall

(i) **HIGHLIGHT:** proceed in the appropriate traffic lane

NOTE: Follow traffic pattern

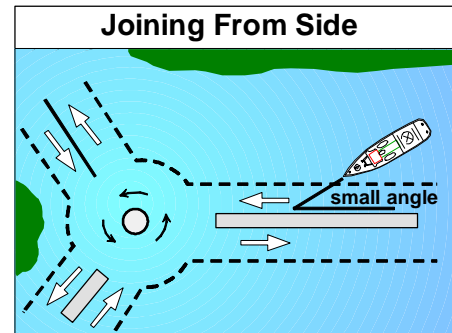
(ii) **HIGHLIGHT:** keep clear of a traffic separation line or separation zone

NOTE: Stay out of separation zone.

(iii) **HIGHLIGHT:** normally join or leave

UNDERLINE: at the termination of the lane, and when joining or leaving from either side, and at as small an angle

Rule 10 (b) is the same as International.



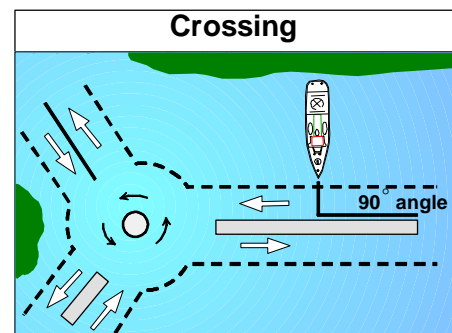
NOTE: Leave at the end of lanes or join/leave at little or no angle. Merge like on a highway.

Rule 10 (c)

HIGHLIGHT: avoid crossing traffic lanes

UNDERLINE: cross on a heading, and at right angles

Rule 10 (c) is the same as International.



NOTE: Cross at right angles.

Traffic Separation Schemes

	INTERNATIONAL	INLAND
Rule 10 (d)	(i) UNDERLINE: <u>A vessel shall not use</u>	Rule 10 (d) is the same as International.
	HIGHLIGHT: inshore traffic zone CIRCLE: not CIRCLE: However UNDERLINE: <u>less than 20 meters, and sailing vessels, and engaged in fishing</u> CIRCLE: may (ii) HIGHLIGHT: enroute to or from UNDERLINE: <u>place situated within the inshore traffic zone, or to avoid immediate danger</u>	
Rule 10 (e)	HIGHLIGHT: separation zone, and separation line DOUBLE UNDERLINE: <u>zone,</u> and <u>line</u> UNDERLINE: <u>shall not normally enter, and or cross</u> CIRCLE: except: (i) HIGHLIGHT: in cases of emergency (ii) HIGHLIGHT: to engage in fishing	Rule 10 (e) is the same as International.
Rule 10 (f)	HIGHLIGHT: areas near the terminations of traffic DOUBLE UNDERLINE: <u>caution</u>	Rule 10 (f) is the same as International.

Traffic Separation Schemes

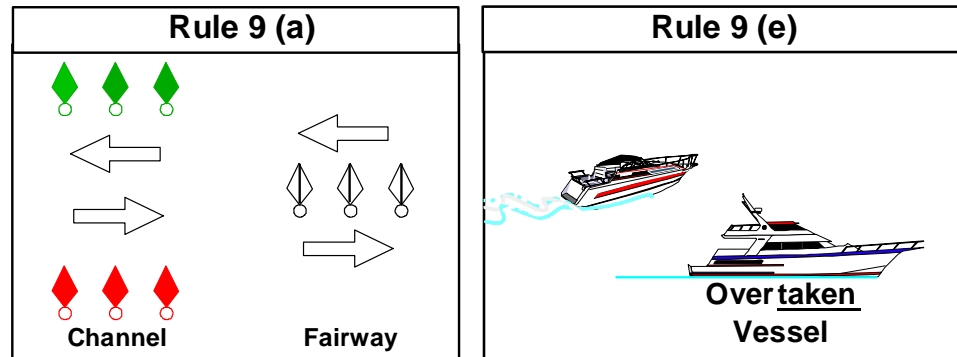
	INTERNATIONAL	INLAND
Rule 10 (g)	HIGHLIGHT: avoid anchoring UNDERLINE: <u>scheme, and near its terminations</u>	Rule 10 (g) is the same as International.
Rule 10 (h)	HIGHLIGHT: not using UNDERLINE: <u>avoid it, and wide a margin</u>	Rule 10 (h) is the same as International.
Rule 10 (i)	HIGHLIGHT: engaged in fishing UNDERLINE: <u>shall not impede</u>	Rule 10 (i) is the same as International.
Rule 10 (j)	HIGHLIGHT: less than 20 meters, and sailing vessel UNDERLINE: <u>shall not impede, and power-driven vessel</u>	Rule 10 (j) is the same as International.
Rule 10 (k)	HIGHLIGHT: maintenance of safety of navigation UNDERLINE: <u>is exempted</u> EXAMPLE: a buoy tender	Rule 10 (k) is the same as International.
Rule 10 (l)	HIGHLIGHT: laying, servicing or picking up of a submarine cable UNDERLINE: <u>is exempted</u> NOTE: Submarine cable is a term used to describe cable laid on the ocean floor such as telephone cable.	Rule 10 (l) is the same as International.

Illustrations

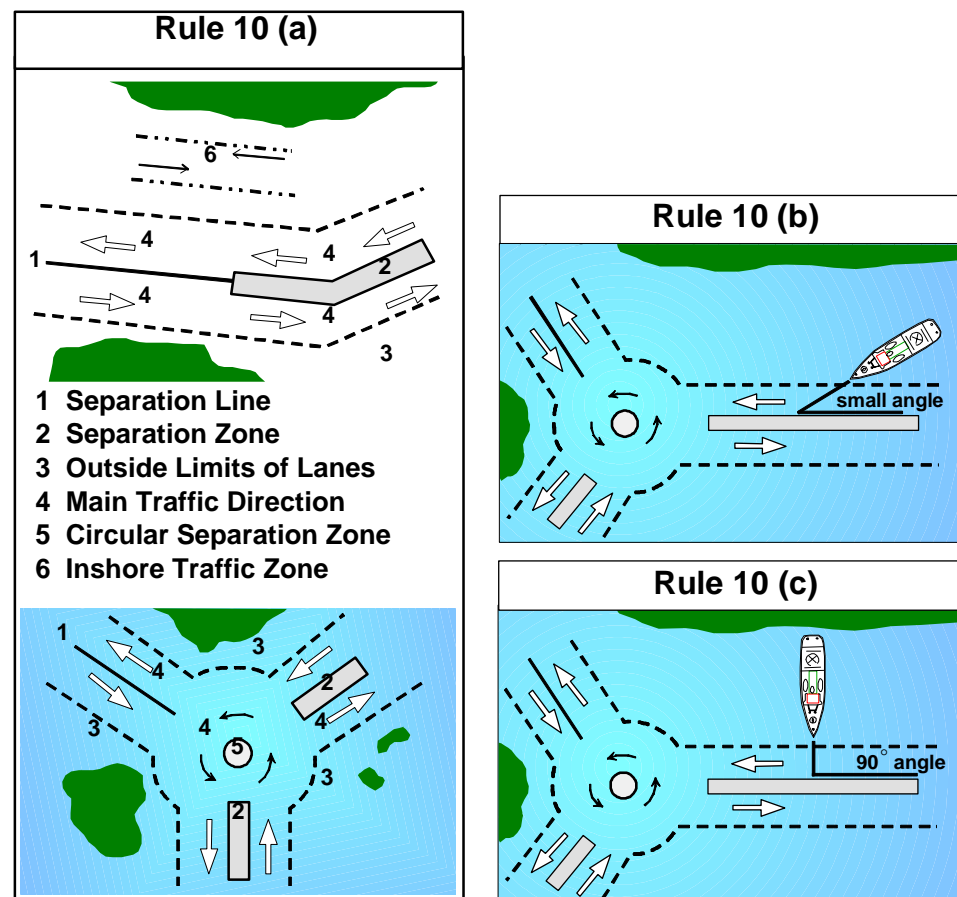
Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 20



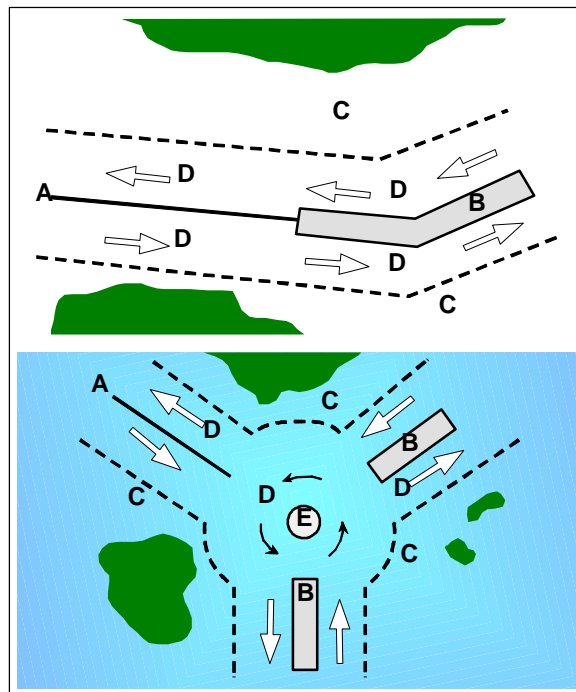
On Page 22



Self-Quiz

Questions

1. Vessels proceeding along the course of a narrow channel or fairway should _____.
2. What three items pertain to a downbound vessel when encountering an upbound vessel in a narrow channel or fairway on certain inland waters?
3. What should an upbound vessel do when encountering a downbound vessel in a narrow channel or fairway on certain inland waters?
4. What two types of vessels shall not impede a vessel which can safely navigate only within a narrow channel or fairway?
5. What type vessel shall not impede the passage of any other vessel navigating within a narrow channel or fairway?
6. When should a vessel not cross a narrow channel or fairway?
7. Label the main parts associated with traffic separation schemes.



8. What is the proper way to leave or join a traffic separation scheme?
-

Self-Quiz

Questions (Continued)

9. What is the proper way to leave or join a traffic separation scheme when joining from either side?
 10. What is the proper way to cross a traffic lane?
 11. What three types of vessels may use an inshore traffic zone?
 12. What are the two conditions that permit any vessel to use an inshore traffic zone?
 13. What four conditions permit a vessel to enter a separation zone or cross a separation line?
 14. What two types of vessels should not impede the safe passage of a power-driven vessel?
-

Answers to Self-Quiz

Question	Answer	Rule
1	keep as near to the outer limit of the channel on her starboard side	9 (a)
2	a. has the right-of-way b. shall propose the manner and place of passage c. shall initiate the maneuvering signals	9 (a)(ii) Inland
3	hold as necessary to permit safe passing	9 (a)(ii) Inland
4	a. vessel less than 20 meters b. a sailing vessel	9 (b)
5	vessel engaged in fishing	9 (c)
6	if such crossing impedes the passage of a vessel which can safely navigate only within such channel or fairway	9 (d)
7	a. separation line b. separation zone c. outside limits of lane d. main traffic direction e. circular separation zone	*Page 2 - 22 * Refers to course pamphlet.
8	at the termination of the lane	10 (b)(iii)
9	at as small an angle to the general direction of traffic flow as practicable	10 (b)(iii)
10	at right angles	10 (c)
11	a. vessels less than 20 meters b. sailing vessels c. vessels engaged in fishing	10(d)
12	a. when en route to and from any place situated within the inshore traffic zone b. to avoid immediate danger	10 (d)

Answers to Self-Quiz

Question	Answer	Rule
13	a. in case of emergency b. to engage in fishing c. maintenance of safety of navigation d. laying, servicing or picking up of a submarine cable	10(e)(k)(l)
14	a. vessel less than 20 meters b. sailing vessel	10(j)

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

For questions 1 through 6, place an (X) next to the vessel required not to impede the other vessel.

1. In a channel

_____ A. a sailing vessel

_____ B. a 600-ft tanker

2. In a narrow channel

_____ A. upbound vessel

_____ B. crossing vessel

3. In a traffic separation scheme

_____ A. vessel crossing a lane

_____ B. vessel conducting aids to navigation work

4. In a traffic lane

_____ A. a power vessel over 20 meters in length

_____ B. a fishing vessel over 20 meters in length

5. In an overtaking situation

_____ A. a vessel required to sound her intentions

_____ B. a vessel required to sound a whistle signal in agreement

6. In the Western Rivers

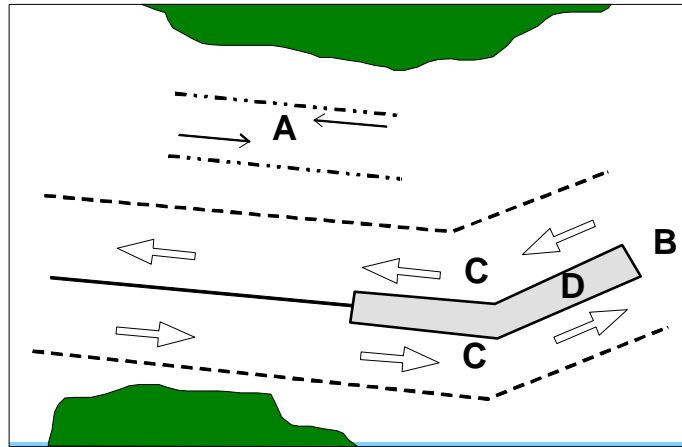
_____ A. upbound vessel

_____ B. downbound vessel

Exercise in Applying the Rules

Questions (Continued)

Use the following illustration for questions 7 through 10.



7. Which part of the traffic separation scheme is reserved for sailing vessels and vessels less than 20 meters?
8. Where should a vessel join or leave the traffic separation scheme?
9. Where should a vessel anchor in case of emergency?
10. In which area(s) shall a vessel proceed with the flow of traffic?
11. Place an (X) next to the statements that apply to vessels in a narrow channel or fairway.

- ☐ A. Stay in the deepest part of a channel
 - ☐ B. A 60-meter sailboat may impede traffic
 - ☐ C. A vessel should not cross a channel with oncoming traffic
 - ☐ D. Fishing in a channel is prohibited
 - ☐ E. Whistle signals are always optional when overtaking a vessel
 - ☐ F. Anchoring is allowed but not recommended
 - ☐ G. Answer whistle signals for vessel at a bend
-

Answers to Exercise

Question	Answer	Rule
1	A	9 (b)
2	B	9 (d)
3	A	10 (c), 10 (1)
4	B	10 (i)
5	A	9 (e)
6	A	9 (a)(ii)
7	A	10 (d)
8	B	10 (b)
9	D	10 (e)
10	A, C	10 (b)
11	C, F, G	9

LESSON 2 – CONTINUED

PART B - STEERING AND SAILING RULES

Overview

Introduction

This lesson on the steering and sailing rules deals with situations when vessels are or are not in sight of one another when in or near an area of restricted visibility. It includes Rules 11 through 19.

Objectives

After completing this lesson, you will be able to:

- **IDENTIFY** which sailing vessel should keep out of the way of the other when each has the wind on a different side.
 - **IDENTIFY** which sailing vessel should keep out of the way of the other when each has the wind on the same side.
 - **IDENTIFY** which sailing vessel should keep out of the way of the other when one has the wind on the port side and the other is windward but it can't be determined which side the wind is on.
 - **STATE** what a vessel overtaking another is required to do.
 - **STATE** when a vessel is deemed to be overtaking.
 - **STATE** what two power-driven vessels meeting on reciprocal courses should do to avoid collision.
 - **STATE** when a head-on situation is deemed to exist by day.
 - **STATE** when a head-on situation is deemed to exist by night.
 - **IDENTIFY** which vessel has the right-of-way in a head-on situation on certain inland waters.
 - **STATE** which vessel should keep out of the way of others in a crossing situation.
 - **STATE** what a give-way vessel should do.
 - **STATE** what a stand-on vessel should do.
-

Overview

Objectives (Continued)

- **STATE** when a stand-on vessel may take action to avoid collision by her maneuver alone.
 - **STATE** when a stand-on vessel shall take action to avoid collision.
 - **STATE** what a stand-on vessel should not do when action is necessary to avoid a collision.
 - **LIST** the three situations when the responsibilities between different types of vessels do not apply.
 - **LIST** the seven types of vessels in order of most restricted on top to least restricted on bottom that shows which vessel should stay out of the way of others.
 - **STATE** what a power-driven vessel should do in restricted visibility.
 - **STATE** what a vessel should NOT do when it detects by radar alone in restricted visibility the presence of another vessel at close quarters forward of the beam.
 - **STATE** what a vessel should NOT do when it detects by radar alone in restricted visibility the presence of another vessel at close quarters abeam or abaft the beam.
 - **STATE** what two things a vessel in restricted visibility should do when it hears a fog signal apparently forward of the beam.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application and Sailing Vessels	2-42
Overtaking	2-43
Head-on Situations	2-44
Crossing Situations	2-46
Action by Give-Way & Stand-on Vessel	2-47
Responsibilities Between Vessels	2-49
Conduct of Vessels in Restricted Visibility	2-50
Illustrations	2-53
Self-Quiz	2-55
Answers to Self-Quiz	2-58
Exercise in Applying the Rules	2-60
Answers to Exercise	2-62

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 26 to 37, **Rules 11-19**

Application & Sailing Vessels

Background

This section presents an overview of Rules 11 & 12 in the "Navigation Rules" book. The side of a sailing vessel that the wind is on refers to the side that the wind is coming from. In addition, windward refers to upwind and leeward refers to downwind.

INTERNATIONAL

INLAND

Rule 11 (a)

NOTE: In sight means when each vessel can be observed visually from the other.

Rule 11 (a) is the same as International.

Rule 12 (a)

HIGHLIGHT: two sailing vessels, and approaching

UNDERLINE: one of them shall keep out of the way

(i) **HIGHLIGHT:** wind on a different side

UNDERLINE: wind on the port

(ii) **HIGHLIGHT:** wind on the same side

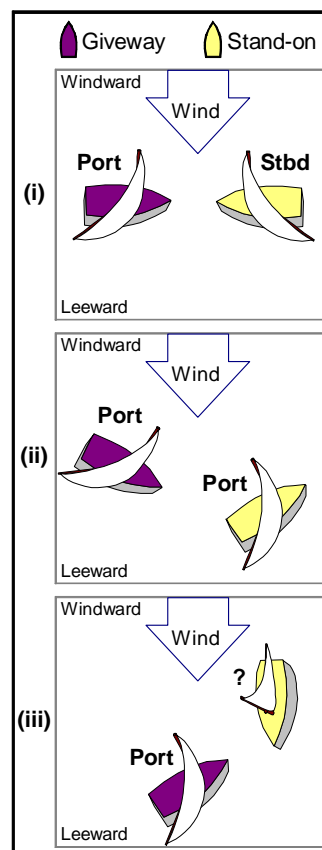
UNDERLINE: vessel which is to windward

(iii) **HIGHLIGHT:** wind on the port sees a vessel to windward and cannot determine

UNDERLINE: keep out of the way

NOTE: In other words, vessel sees a vessel to its port.

Rule 12 (a) is the same as International.



Rule 12 (b)

HIGHLIGHT: windward side

UNDERLINE: side opposite to that on which the fore and aft sail is carried

Rule 12 (b) is the same as International.

Overtaking

Background

This section presents an overview of Rule 13 in the "Navigation Rules" book. The burden of keeping clear and avoiding collision is on the vessel that is overtaking the other.

INTERNATIONAL

INLAND

Rule 13 (a)

HIGHLIGHT: vessel overtaking

UNDERLINE: shall keep out of the way

NOTE: Vessel passing shall stay clear of vessel being passed.

Rule 13 (a) is the same as International.

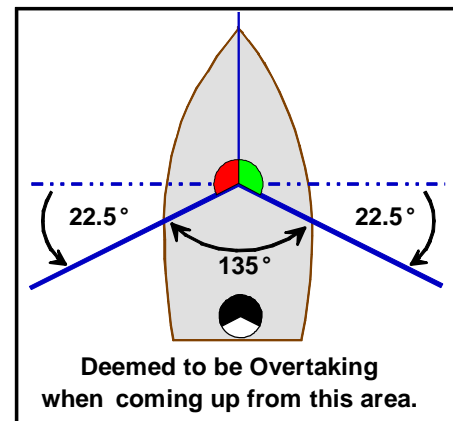
Rule 13 (b)

HIGHLIGHT: deemed to be overtaking

UNDERLINE: direction more than 22.5 degrees abaft her beam, and at night, and only the sternlight

NOTE: Refer to rule 21 (c) for an explanation of sternlight.

Rule 13 (b) is the same as International.



Rule 13 (c)

HIGHLIGHT: any doubt

UNDERLINE: assume that this is the case

Rule 13 (c) is the same as International.

Rule 13 (d)

HIGHLIGHT: subsequent alteration of the bearing

UNDERLINE: shall not make the overtaking vessel a crossing vessel, and keeping clear of the overtaken vessel

DOUBLE UNDERLINE: until she is finally past and clear

Rule 13 (d) is the same as International.

Head-on Situations

Background

This section presents an overview of Rule 14 in the "Navigation Rules" book. This rule requires each vessel to turn right in head-on situations, which should prevent or reduce collisions resulting from left-handed maneuvering.

INTERNATIONAL

INLAND

Rule 14 (a)

HIGHLIGHT: two power-driven vessels

UNDERLINE: are meeting, and risk of collision, and each shall alter her course to starboard

NOTE: In other words, if vessels are close enough to think a collision may occur, "alter to starboard."

Rule 14 (a) is worded similarly to International **EXCEPT:**

HIGHLIGHT: Unless otherwise agreed

NOTE: In other words, by radio telephone, which we discuss in the Annexes.

Rule 14 (b)

HIGHLIGHT: situation shall be deemed to exist

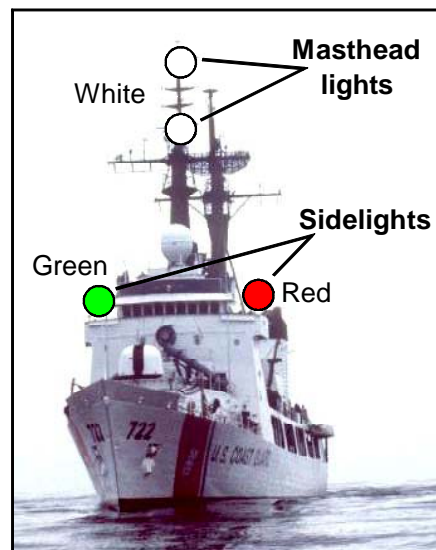
UNDERLINE: sees the other ahead, and masthead lights of the other in a line, and and/or both sidelights, and corresponding aspect

CIRCLE: by night

CIRCLE: by day

NOTE: Refer to rule 21 (a) (b) & 23 (a) for details on lights stated in this rule.

Rule 14 (b) is the same as International.



Rule 14 (c)

HIGHLIGHT: any doubt

UNDERLINE: assume that it does

NOTE: If in doubt, it's a HEAD-ON situation.

Rule 14 (c) is the same as International.

Head-on Situations

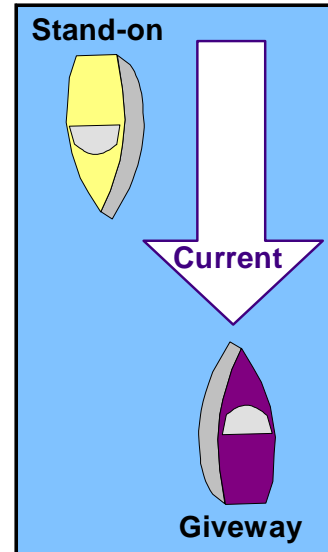
INTERNATIONAL

INLAND

Rule 14 (d)

HIGHLIGHT: proceeding
downbound

UNDERLINE: shall have the
right-of-way over an upbound
vessel, and propose, and initiate



Crossing Situations

Background

This section presents an overview of Rule 15 in the "Navigation Rules" book.

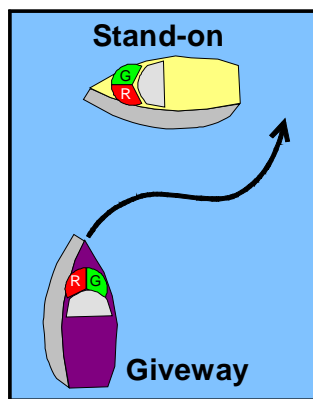
INTERNATIONAL

INLAND

Rule 15

HIGHLIGHT: two power driven-vessels

UNDERLINE: other on her own starboard side shall keep out of the way, and avoid crossing ahead



MEMORY AID: Think about the running lights on each vessel. If you see red, you are give-way. If you see green, you are stand-on and proceed.

Rule 15 (a)

Rule 15 (a) is the same as Rule 15 International.

Rule 15 (b)

HIGHLIGHT: crossing a river

UNDERLINE: shall keep out of the way

NOTE: Vessels such as ferry boats crossing a river shall stay clear of vessels proceeding up or down river.

Action by Give-Way & Stand-on Vessel

Background

This section presents an overview of Rules 16 & 17 in the "Navigation Rules" book. The actions that the give-way vessel should take don't change. However, the stand-on vessel does have alternatives when the give-way vessel does not follow the Rules.

INTERNATIONAL

INLAND

Rule 16

HIGHLIGHT: keep out of the way

Rule 16 is the same as International.

UNDERLINE: early, and substantial action

NOTE: Early = ample time

Substantial action = large turn

Rule 17 (a)

(i) **HIGHLIGHT:** vessels is to keep out of the way

Rule 17 (a) is the same as International.

UNDERLINE: other shall keep her course and speed

DOUBLE UNDERLINE: keep

NOTE: Keep = maintain

CIRCLE: may

(ii) **HIGHLIGHT:** take action to avoid collision by her maneuver alone

UNDERLINE: is not taking appropriate action

NOTE: When the give-way vessel doesn't alter course, speed, etc., the stand-on **MAY** take action.

Action by Give-Way & Stand-on Vessel

	INTERNATIONAL	INLAND
Rule 17 (b)	<p>HIGHLIGHT: finds herself so close that collision cannot be avoided</p> <p>CIRCLE: shall</p> <p>UNDERLINE: take such action, and to avoid collision</p> <p>NOTE: The give-way vessel SHALL maneuver to avoid collision at close quarters.</p>	Rule 17 (b) is the same as International.
Rule 17 (c)	<p>HIGHLIGHT: in a crossing situation</p> <p>UNDERLINE: not alter course to port for a vessel on her own port side</p>	Rule 17 (c) is the same as International.
Rule 17 (d)	<p>HIGHLIGHT: does not relieve</p> <p>UNDERLINE: give-way vessel</p> <p>NOTE: All give-way vessels are still at fault even if the stand-on (right of way) vessel maneuvers.</p>	Rule 17 (d) is the same as International.

Responsibilities Between Vessels

Background

This section presents an overview of Rule 18 in the "Navigation Rules" book. This rule states the hierarchy of vessels required to give-way to other vessels due to their circumstance. When a vessel is required not to impede the passage of another vessel, such a vessel shall so far as practicable navigate in such a way as to avoid the development of risk of collision.

	INTERNATIONAL	INLAND
Rule 18	<p>ADD: (To the right of "Except where Rules 9, 10, and 13 otherwise require")</p> <p>"9 - Narrow channels</p> <p>10 - Traffic separation scheme</p> <p>13 – Overtaking"</p> <p>NOTE: If you list all the circumstances in order (most restricted on top and least restricted on bottom), you can easily determine which vessels must stay clear of the other vessels above them on the list.</p> <p>ADD: (This memory aid to the bottom of page 34.</p> <p><u>N</u>on <u>N</u>ot under command</p> <p><u>R</u>ate <u>R</u>estricted in ability to maneuver</p> <p><u>C</u>an <u>C</u>onstrained by draft</p> <p> (International only)</p> <p><u>F</u>ool <u>F</u>ishing</p> <p><u>S</u>enior <u>S</u>ail</p> <p><u>P</u>eople <u>P</u>ower</p> <p><u>S</u>ometimes <u>S</u>eamplanes"</p>	<p>Rule 18 is the same as International EXCEPT:</p> <p>ADD: (Between rules 18 (c)(ii) and 18 (d)</p> <p>"No 'constrained by draft' in Inland Rules"</p> <p>Rule 18 (d) is the same as Rule 18 (e) International.</p>

Conduct of Vessels in Restricted Visibility

This section presents an overview of Rule 19 in the "Navigation Rules" book. Mariners should be particularly mindful of existing visibility when considering or establishing proper look-out, safe speed, risk of collision, action to be taken to avoid collision, conduct in narrow channels, and conduct in vessel traffic schemes.

INTERNATIONAL

INLAND

Rule 19 (a)

HIGHLIGHT: not in sight of one another

Rule 19 (a) is the same as International.

CIRCLE: in or near

UNDERLINE: area of restricted visibility



Rule 19 (b)

HIGHLIGHT: Every vessel, and power-driven vessel

Rule 19 (b) is the same as International.

UNDERLINE: safe speed, and engines ready

NOTE: This rule states that a power vessel keep engine(s) on line. In other words BOTH made ready.

Conduct of Vessels in Restricted Visibility

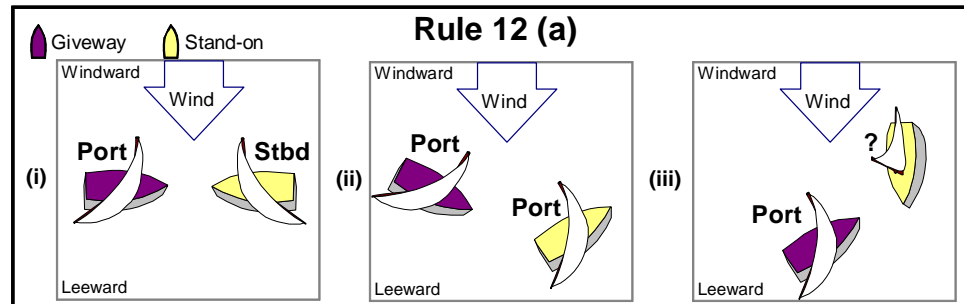
	INTERNATIONAL	INLAND
Rule 19 (c)	<p>UNDERLINE: <u>have due regard to the prevailing circumstances and conditions of restricted visibility</u></p> <p>NOTE: Use safe speed and proper lookout.</p>	Rule 19 (c) is the same as International.
Rule 19 (d)	<p>HIGHLIGHT: <u>detects by radar alone</u></p> <p>UNDERLINE: <u>shall determine, and shall take avoiding action in ample time, and shall be avoided</u></p> <p>(i) HIGHLIGHT: <u>alteration of course to port</u></p> <p>UNDERLINE: <u>forward of the beam</u></p> <p>(ii) HIGHLIGHT: <u>alteration of course towards a vessel</u></p> <p>UNDERLINE: <u>abeam or abaft the beam</u></p>	Rule 19 (d) is the same as International.
Rule 19 (e)	<p>HIGHLIGHT: <u>hears apparently forward of her beam the fog signal of another vessel, or which cannot avoid a close-quarters situation</u></p> <p>UNDERLINE: <u>shall reduce her speed to the minimum, and if necessary take all her way off</u></p> <p>NOTE: Slow down when a vessel is detected forward of the bow and proceed at the slowest speed to stay on course (bare steering).</p>	Rule 19 (e) is the same as International.

Illustrations

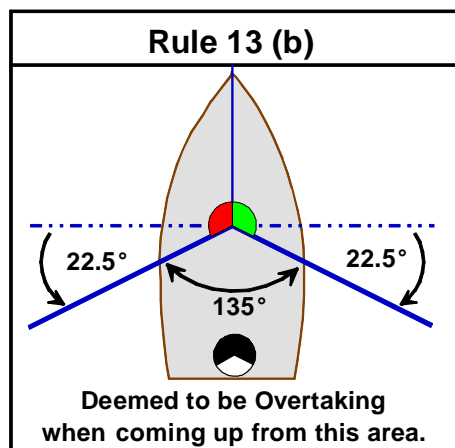
Instructions

Cut out the following illustrations and place them on the pages indicated.

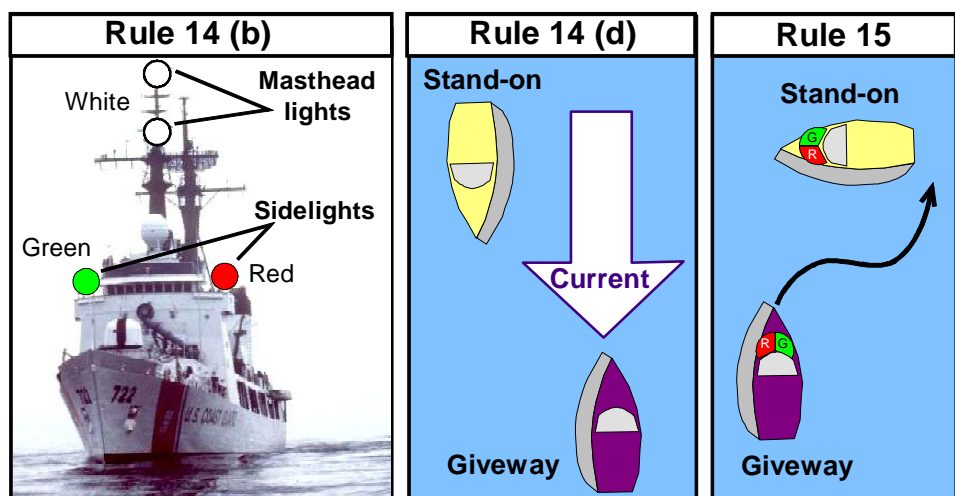
On Page 26



On Page 28



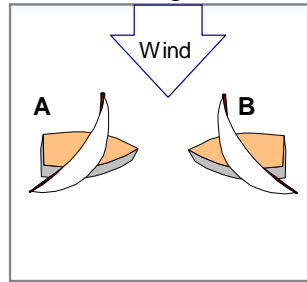
On Pages 30 and 31



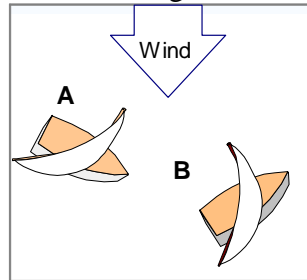
Self-Quiz

Questions

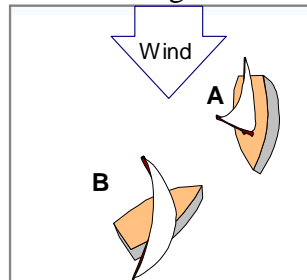
1. Which sailing vessel should keep out of the way of the other?



2. Which sailing vessel should keep out of the way of the other?



3. Which sailing vessel should keep out of the way of the other?

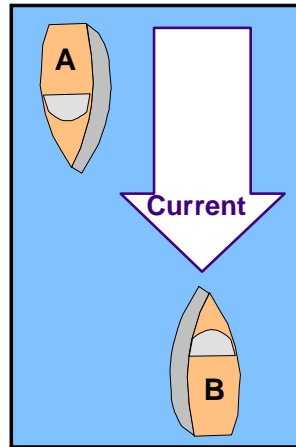


4. An overtaking vessel is required to _____.
5. A vessel is deemed to be overtaking when _____.
6. What should two power-driven vessels do to avoid collision when meeting on reciprocal courses?
-

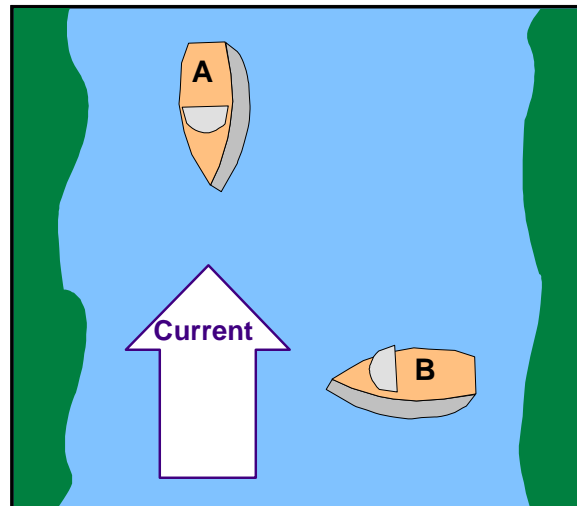
Self-Quiz

Questions (Continued)

7. When is a head-on condition deemed to exist by day?
8. When is a head-on condition deemed to exist by night?
9. Which vessel has the right-of-way in a head-on situation on certain inland waters?



10. Which vessel should stay out of the way of the other in a crossing situation?
11. Which vessel should keep out of the way of the other on certain inland waters between a vessel crossing and a power-driven vessel going up or down a river?



12. A give-way vessel should _____.
13. A stand-on vessel should _____.
14. A stand-on vessel may take action to avoid collision by her maneuver alone when _____.

Self-Quiz

Questions (Continued)

15. A stand-on vessel shall take action to avoid collision _____.
 16. A stand-on vessel that takes action to avoid a collision should not _____.
 17. The responsibilities between different types of vessels do not apply in what three situations?
 18. List the seven types of vessels from most restricted on top to least restricted on bottom that shows which vessels should stay out of the way of the others.
 19. A power-driven vessel in restricted visibility should _____.
 20. What action should a vessel NOT take when it detects by radar alone in restricted visibility the presence of another vessel at close quarters forward of the beam?
 21. What action should a vessel NOT take when it detects by radar alone in restricted visibility the presence of another vessel at close quarters abeam or abaft the beam?
 22. What two things should a vessel in restricted visibility do when it hears a fog signal apparently forward of the beam?
-

Answers to Self-Quiz

Question	Answer	Rule
1	B	12 (a)(i)
2	A	12 (a)(ii)
3	B	12 (a)(iii)
4	keep out of the way of the vessel being overtaken	13 (a)
5	coming up with another vessel from a direction more than 22.5 degrees abaft her beam	13 (b)
6	each should alter course to starboard	14 (a)
7	when a vessel sees the other ahead or nearly ahead and observes the corresponding aspect of the other vessel	14 (b)
8	when a vessel sees the other ahead or nearly ahead and can see the masthead lights or the other in line or nearly in line and/or both sidelights	14 (b)
9	A	14 (d)
10	the vessel which has the other on her own starboard side	15 (a)
11	B	15 (b)
12	take early and substantial action to keep well clear	16
13	keep her course and speed	17 (a)(i)
14	it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action	17 (a)(ii)
15	when she finds herself so close that collision cannot be avoided by the action of the give-way vessel alone	17 (b)
16	alter course to port for a vessel on her own port side	17 (c)

Answers to Self-Quiz

Question	Answer	Rule
17	1. overtaking situations 2. narrow channels/fairways 3. traffic separation schemes	18
18	1. not under command 2. restricted in ability 3. constrained by draft (Not Inland) 4. fishing 5. sailing 6. power 7. seaplane	18
19	have her engine(s) ready for immediate maneuver	19 (b)
20	not alter course to port	19 (d)(i)
21	not alter course towards a vessel	19 (d)(ii)
22	reduce her speed to the minimum if necessary take all her way off	19 (e)

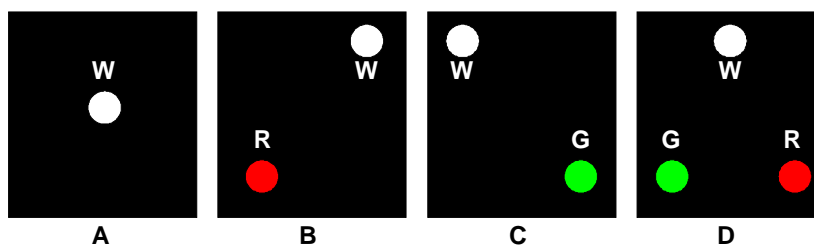
Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

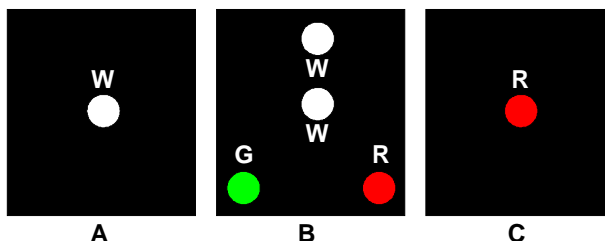
Questions

Use the illustration below to answer questions 1 through 3.



1. If you observe the light in illustration “A” ahead of you, you should assume you are in a/an _____ situation.
2. You should give way to a vessel showing the lights illustrated in picture(s) _____.
3. When proceeding downbound in the Western Rivers, which light configuration should give way to you?

Use the illustration below to answer questions 4 and 5.



4. In international waters, given the lights as seen ahead (your bow) determine what situation exists.
 - a. _____
 - b. _____
 - c. _____
 5. What is the recommended action you should take in each situation?
 - a. _____
 - b. _____
 - c. _____
-

Exercise in Applying the Rules

Questions (Continued)

6. You are on a Coast Guard cutter underway and close aboard a fishing vessel. In what three conditions would you be the stand-on vessel?
 7. Place an (X) next to the statements that apply to head-on situations.

_____ A. Only applies to power-driven vessels.

_____ B. Should alter course to port.

_____ C. Shall assume that head-on condition applies if in doubt.

_____ D. Anytime you see the same aspect of the other vessel.

_____ E. Both vessels shall assume give-way status.

_____ F. Downbound Western Rivers vessels are stand-on when approaching upbound vessels.
 8. State what two times a vessel using radar would alter course to port in restricted visibility.
-

Answers to Exercise

Question	Answer	Rule
1	overtaking	13 b, 21
2	A, B, D	14 b, 15, 21
3	B, C, D	14 d, 15 b, 21
4	A. overtaking B. head-on C. crossing	13, 21 14 15, 21
5	A. Ask permission to overtake and stand clear of the other vessel until past and clear. B. Alter course to starboard and sound signals listed in rule 34. C. Alter course/speed to avoid collision and take action as the give-way vessel.	13 14 15
6	1. if restricted in ability to maneuver 2. not under command 3. if being overtaken	18
7	A, C, E, F	13
8	1. overtaking 2. vessel is abeam to starboard	19 (d), (e)

LESSON 3

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the lights required by vessels under normal conditions. It includes Rules 20 through 23.

Objectives

After completing this lesson, you will be able to:

- **LIST** the two times when lights are required to be exhibited.
 - **STATE** when lights may be exhibited even though they are not required.
 - **STATE** when shapes are displayed.
 - **MATCH** the types of lights displayed on vessels with the proper color(s).
 - **MATCH** the types of lights displayed on vessels with the proper degrees of arc.
 - **STATE** on what length vessel the sidelights may be combined in one lantern.
 - **STATE** the number of flashes in a flashing light.
 - **STATE** the number of flashes in a special flashing light.
 - **STATE** what additional light an air-cushion vessel shall display in the nondisplacement mode.
 - **STATE** the optional light display for a vessel less than 12 meters.
 - **STATE** the optional light display for a vessel less than 7 meters whose maximum speed does not exceed 7 knots.
 - **STATE** the optional light display for vessels on the Great Lakes.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Application	3-3
Definitions	3-5
Visibility of Lights	3-9
Power-Driven Vessels Underway	3-10
Illustrations	3-13
Self-Quiz	3-15
Answers to Self-Quiz	3-18
Exercise in Applying the Rules	3-20
Answers to Exercise	3-22

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 38 to 51, **Rules 20-23**

Application

Background

This section presents an overview of Rule 20 in the "Navigation Rules" book. Common sense says lights by night and shapes by day. However, it is important to know that lights shall sometimes be displayed even during daylight on certain occasions.

INTERNATIONAL

INLAND

Rule 20 (a)

HIGHLIGHT: Rules, and
complied with

Rule 20 (a) is the same as
International.

UNDERLINE: in all weathers

Rule 20 (b)

UNDERLINE: from sunset to
sunrise

Rule 20 (b) is the same as
International.

NOTE: Use the prescribed lights
during night and limit the use of
other lights.

Rule 20 (c)

HIGHLIGHT: lights prescribed

Rule 20 (c) is the same as
International.

CIRCLE: shall

UNDERLINE: be exhibited, and
sunrise to sunset

HIGHLIGHT: in restricted
visibility


CIRCLE: may

UNDERLINE: be exhibited, and
when it is deemed necessary

NOTE: Use lights during
daylight when:

- in restricted visibility (e.g.,
fog, rain, etc.)
 - deemed necessary
-

Application

	INTERNATIONAL	INLAND
Rule 20 (d)	HIGHLIGHT: Rules, and  UNDERLINE: <u>by day</u>	Rule 20 (d) is the same as International.
Rule 20 (e)	NOTE: Annex I gives technical details concerning lights and shapes.	Rule 20 (e) is the same as International.

Definitions

Background

This section presents an overview of Rule 21 in the "Navigation Rules" book. Different lights show not only different colors, but also different amounts of arc. This is done so specific lights can only be seen at specific aspects to the vessel, like seeing the sternlight only when you are behind the vessel.

INTERNATIONAL

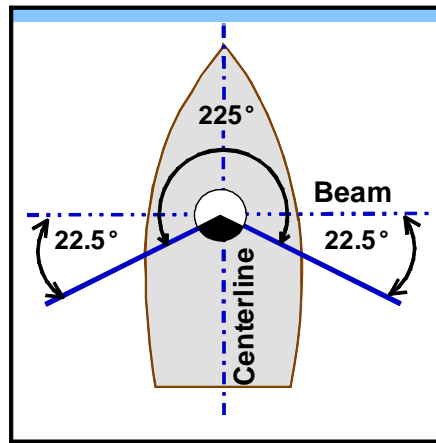
INLAND

Rule 21 (a)

HIGHLIGHT: "Masthead light"

CIRCLE: 225 degrees

UNDERLINE: white, and 22.5
degrees



Rule 21 (a) is the same as International **EXCEPT:**

HIGHLIGHT: except that on a vessel of less than

CIRCLE: 12 meters

UNDERLINE: as nearly as practicable to and, centerline

EXAMPLE: A vessel 30 ft. in length need not have its masthead light displayed on centerline, but must try to place the light as close as possible on centerline.

Definitions

INTERNATIONAL

INLAND

Rule 21 (b)

HIGHLIGHT: "Sidelights", and **less than**

CIRCLE: 112.5 degrees

UNDERLINE: green, and red,
and 22.5 degrees, and may be
combined

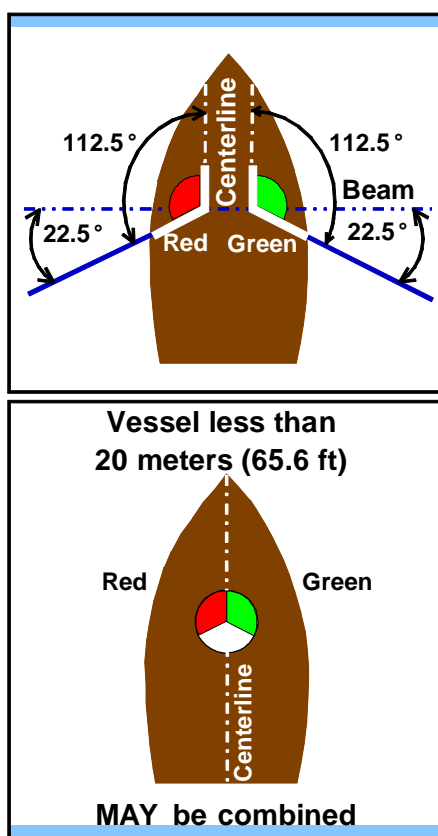
CIRCLE: 20 meters

Rule 21 (b) is the same as International **EXCEPT:**

HIGHLIGHT: **except that on a**
vessel of less than

CIRCLE: 12 meters

UNDERLINE: when combined,
and placed as nearly as practicable
to, and centerline



Definitions

INTERNATIONAL

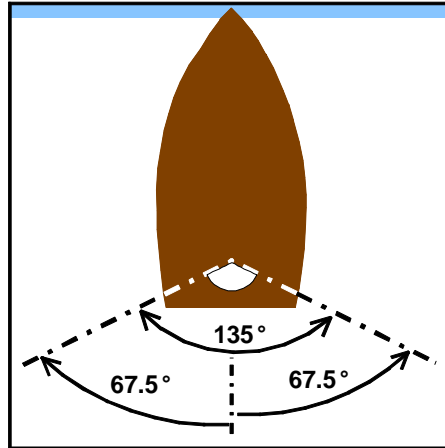
INLAND

Rule 21 (c)

HIGHLIGHT: "Sternlight"

UNDERLINE: white, and 67.5
degrees

CIRCLE: 135 degrees



Rule 21 (c) is the same as International.

Rule 21 (d)

HIGHLIGHT: "Towing light"

UNDERLINE: yellow

Rule 21 (d) is the same as International.

Rule 21 (e)

HIGHLIGHT: "All-round light"

CIRCLE: 360 degrees

NOTE: They can be any standard color -- red, yellow, green, or white.

Rule 21 (e) is the same as International.

Rule 21 (f)

HIGHLIGHT: "Flashing light"

UNDERLINE: 120 flashes

NOTE: 120 flashes per minute =
2 times per second.

Rule 21 (f) is the same as International.

Definitions

INTERNATIONAL

INLAND

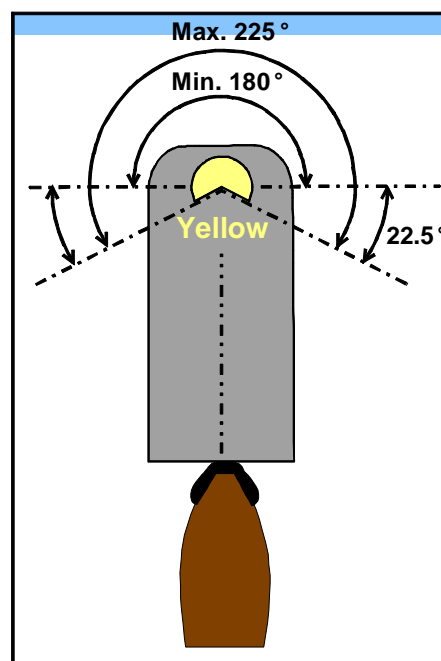
Rule 21 (g)

Rule 21 (g) doesn't apply to International.

HIGHLIGHT: "Special flashing light"

UNDERLINE: yellow, and 50 to 70 flashes, and far forward, and centerline of the tow, and not less than 180 degrees nor more than 225 degrees, and 22.5 degrees

NOTE: The "tow" refers to being **pushed ahead** (Rule 24 (f) (i)).



50 - 70 flashes a minute = approximately 1 time per second.

NOTE: The difference in frequency between "flashing light" and "special flashing light" is difficult to remember. "Special" makes it sound like it has more flashes than the other does; however, in this case it is the opposite.

Visibility of Lights

Background

This section presents an overview of Rule 22 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 22

NOTE: General specifics concerning intensities of lights are listed in Annex I.

This is a summary of the visibility of lights found in this rule.

$L \geq 50$	6	3	3
$20 \leq L < 50$	5	2	2
$12 \leq L < 20$	3	2	2
$L < 12$	2	2	
Submerged = 3NM Special Flashing (Inland) = 2NM			

Rule 22 is the same as International **EXCEPT** it adds **special flashing light** to all lengths.

HIGHLIGHT: a special flashing light (in paragraphs a,b,c)

Power-Driven Vessels Underway

Background

This section presents an overview of Rule 23 in the "Navigation Rules" book. This rule covers lights and shapes for power-driven vessels underway under normal conditions.

INTERNATIONAL

INLAND

Rule 23 (a)

HIGHLIGHT: underway

(i) **UNDERLINE:** masthead light forward

NOTE: Forward means as far forward as possible.

(ii) **HIGHLIGHT:** second masthead light

UNDERLINE: abaft of and higher than, and less than

CIRCLE: 50 meters

DOUBLE UNDERLINE: not, and obliged, and but may do so

(iii) **UNDERLINE:** sidelights

(iv) **UNDERLINE:** sternlight

ADD: (Below picture) "Vessel 50 meters or more in length"

Rule 23 (a) is the same as International.

UNDERLINE: (Under picture) less than 50 meters in length

Power-Driven Vessels Underway

	INTERNATIONAL	INLAND
Rule 23 (b)	<p>HIGHLIGHT: air-cushion vessel</p> <p>CIRCLE: non-</p> <p>UNDERLINE: <u>displacement mode, and all-round flashing yellow light</u></p> <p>ADD: (Underneath "all-round flashing yellow") "120 per minute"</p> <p>NOTE: Nondisplacement mode means it is above the water and may be traveling at a high rate of speed. This is why the flashing yellow light is used to get your attention.</p> <p>Displacement mode means it is on or in the water and its speed is not excessive.</p>	Rule 23 (b) is the same as International.

Power-Driven Vessels Underway

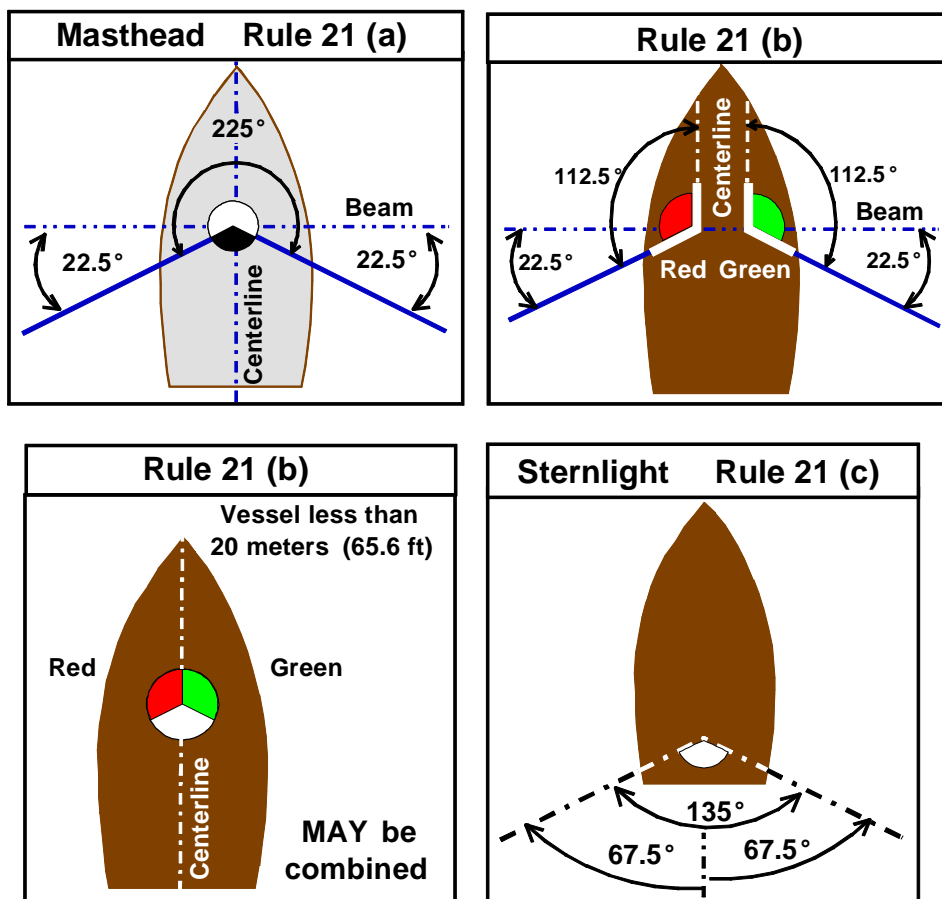
	INTERNATIONAL	INLAND
Rule 23 (c)	(i) HIGHLIGHT: less than 12 meters CIRCLE: may UNDERLINE: all-round white, and sidelights	Rule 23 (c) is the same as International rule 23 (c)(i). ADD: (Below paragraph (c)) "7 meter 7 knots rule DOES NOT apply in Inland rules."
	(ii) HIGHLIGHT: less than 7 meters, and maximum speed does not exceed 7 knots, and if practicable, also exhibit CIRCLE: may UNDERLINE: all-round white light CIRCLE: if practicable UNDERLINE: sidelights	Rule 23 (c)(iii) doesn't apply to Inland Rules. ADD: (Below paragraph (c)) "No provision for light to be displaced off centerline."
	(iii) HIGHLIGHT: masthead light, and all-round white light, and power-driven, and less than 12 meters CIRCLE: may UNDERLINE: be displaced from, and centerline, and if centerline fitting is not practicable, and sidelights are combined	
Rule 23 (d)	Rule 23 (d) doesn't apply to International.	HIGHLIGHT: power-driven vessel, and on the Great Lakes CIRCLE: may UNDERLINE: all-round white light in lieu of the second masthead light and sternlight NOTE: This means that the sternlight and second masthead light may be combined into an all-round second masthead light.

Illustrations

Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 40



On Page 41 and 42

Special Flashing Rule 21 (g)

Rule 22

$L \geq 50$	6	3	3
$20 \leq L < 50$	5	2	2
$12 \leq L < 20$	3	2	2
$L < 12$	2	2	1

Submerged = 3NM Special Flashing (Inland) = 2NM

Self-Quiz

Questions

1. List the two times that lights are required to be exhibited.
2. When may lights be exhibited even though they are not required?
3. When are shapes displayed?
4. Match the types of lights displayed on vessels in column A with the proper color(s) in column B. Some colors may be used more than once.

Column A

Column B

_____ 1. forward masthead

a. red

_____ 2. sidelights

b. white

_____ 3. sternlight

c. yellow

_____ 4. towing light

d. blue

_____ 5. all-round light

e. green

_____ 6. flashing light

_____ 7. special flashing light

5. Match the types of lights displayed on vessels in column A with the proper degrees of arc in column B. Some degrees may be used more than once.

Column A

Column B

_____ 1. masthead

a. 360°

_____ 2. sidelights

b. 225°

_____ 3. sternlight

c. 135°

_____ 4. towing light

d. 112.5°

_____ 5. all-round light

e. 22.5°

_____ 6. flashing light

f. 180° to 225°

_____ 7. special flashing light

g. not specified

Self-Quiz

Questions (Continued)

6. What length vessel may have the sidelights combined in one lantern?
7. How many flashes are in a flashing light?
8. How many flashes are in a special flashing light?
9. State the required minimum ranges of visibility for lights on vessels.

$L \geq 50$			
$20 \leq L < 50$			
$12 \leq L < 20$			
$L < 12$			
Submerged = 3NM		Special Flashing (Inland) = 2NM	

10. List the four kinds of lights that a power-driven vessel underway shall exhibit.
 11. What additional light shall an air-cushion vessel display in the non-displacement mode?
 12. What is the optional light display for a vessel less than 12 meters?
 13. What is the optional light display for a vessel less than 7 meters whose maximum speed does not exceed 7 knots in international waters?
 14. What is the optional light display for vessels on the Great Lakes?
-

Answers to Self-Quiz

Question	Answer	Rule																								
1	from sunset to sunrise from sunrise to sunset in restricted visibility	20 (b) 20 (c)																								
2	all circumstances when it is deemed necessary	20 (c)																								
3	by day	20 (d)																								
4	1. b 2. a,e 3. b 4. c 5. a,b,c,d,e 6. a,b,c,d,e 7. c	21 (a) - (g)																								
5	1. b, a (Great Lakes only) 2. d 3. c 4. c 5. a 6. g 7. f	21 (a) - (g)																								
6	vessel of less than 20 meters	21 (b)																								
7	120 flashes or more per minute	21 (f)																								
8	50 to 70 flashes per minute	21 (g)																								
9	<table border="1"><tr><td colspan="4"></td></tr><tr><td>L ≥ 50</td><td>6</td><td>3</td><td>3</td></tr><tr><td>20 ≤ L <50</td><td>5</td><td>2</td><td>2</td></tr><tr><td>12 ≤ L <20</td><td>3</td><td>2</td><td>2</td></tr><tr><td>L < 12</td><td>2</td><td>2</td><td>1</td></tr><tr><td colspan="4">Submerged = 3NM Special Flashing (Inland) = 2NM</td></tr></table>					L ≥ 50	6	3	3	20 ≤ L <50	5	2	2	12 ≤ L <20	3	2	2	L < 12	2	2	1	Submerged = 3NM Special Flashing (Inland) = 2NM				22
L ≥ 50	6	3	3																							
20 ≤ L <50	5	2	2																							
12 ≤ L <20	3	2	2																							
L < 12	2	2	1																							
Submerged = 3NM Special Flashing (Inland) = 2NM																										
10	masthead light second masthead light (optional if less than 50 meters) sidelights sternlight	23 (a)(i) - (iv)																								
11	all-round flashing yellow light	23 (b)																								

Answers to Self-Quiz

Question	Answer	Rule
12	all-round white light and sidelights	23 (c)(i)
13	all-round white light and if practicable sidelights	23 (c)(ii)
14	all-round white light in lieu of the second masthead light and sternlight	23 (d)

Exercise in Applying the Rules

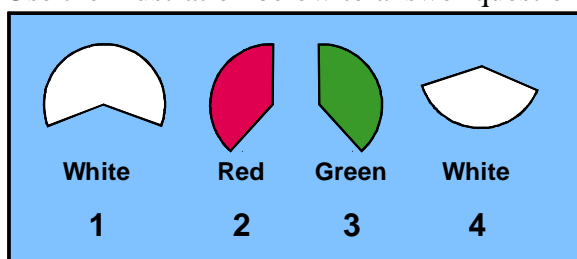
Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. Lights on inconspicuous, partly submerged towed objects must be what color?
2. Lights on inconspicuous, partly submerged towed objects must be visible for _____ NM.

Use the illustration below to answer question 3 through 5.



3. Match the lights in the illustration to their proper location on a vessel.
____ a. masthead
____ b. port side light
____ c. sternlight
____ d. starboard side light
 4. Power-driven vessels over 50 meters are required to have two of light ____.
 5. On what vessels may lights 2 and 3 be combined?
 6. What color are towing lights?
 7. Towing lights have the same arc of visibility as a ____.
-

Exercise in Applying the Rules

Questions (Continued)

8. Match the light characteristics in column B to the lights in column A. Some may be used more than once or not at all.

Column A

- _____ 1. forward masthead
- _____ 2. flashing
- _____ 3. all-round
- _____ 4. special flashing
- _____ 5. sidelight
- _____ 6. towing light
- _____ 7. sternlight

Column B

- a. white 135° light
- b. used inland only
- c. arc of 360°
- d. yellow in color
- e. may be red, green, white
- f. flashes 50-75 times a minute
- g. combined on 12-meter vessels
- h. not visible from the beam
- i. flashes 120+ times a minute
- j. arc of 225°

9. In what two situations may the sternlight be combined with masthead lights on vessels?
-

Answers to Exercise

Question	Answer	Rule
1	white	22
2	3	22
3	a. 1 b. 2 c. 4 d. 3	21 (a), (b), (c)
4	1	21 (a)
5	vessels less than 20 meters in length	21 (b)
6	yellow	21 (c)
7	sternlight	21 (c)
8	1. a 2. i 3. c, d, e 4. b, d, f 5. g 6. d, h 7. a, h	21
9	when vessel is less than 12 meters in length when vessel is operating on the Great Lakes	23 (c), (d)

LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the display of lights and shapes on vessels engaged in towing and pushing. It contains Rule 24.

Objectives

After completing this lesson, you will be able to:

- **LIST** the four lights required to be displayed on a vessel that is towing.
 - **STATE** what lights are displayed on a towing vessel when the length of the tow exceeds 200 meters.
 - **STATE** what shape is displayed on a towing vessel when the length of the tow exceeds 200 meters.
 - **STATE** what lights are displayed on a vessel pushing when rigidly connected in a composite unit.
 - **LIST** the three lights displayed on a vessel when pushing ahead or towing alongside in international waters.
 - **LIST** the three lights displayed on a vessel when pushing ahead or towing alongside in inland waters.
 - **LIST** the two lights displayed on a vessel or object being towed.
 - **STATE** what shape a vessel or object being towed would display if the tow exceeds 200 meters.
 - **STATE** what lights would be displayed on a vessel being pushed ahead in international waters.
 - **STATE** what two lights would be displayed on a vessel being pushed ahead in inland waters.
 - **STATE** what two lights would be displayed on a vessel being towed alongside.
-

Overview

Objectives (Continued)

- **IDENTIFY** where to display all-round white lights on partly submerged vessels/objects being towed.
 - **STATE** what type of shape is displayed on partly submerged vessels/objects being towed.
 - **STATE** what additional shape is displayed on partly submerged vessels/objects being towed when the tow exceeds 200 meters in length in international waters.
 - **STATE** what a towing vessel may do to indicate its presence to an approaching vessel.
 - **STATE** what shall be done when it is impracticable for a vessel/object being towed to exhibit the lights or shapes required in international waters.
 - **STATE** what two lights are displayed on a power-driven vessel pushing ahead or towing alongside on Western Rivers.
 - **STATE** what type vessel shall not be required to exhibit the lights for towing.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Power-Driven Vessel When Towing	3-26
Composite Unit & Vessel Pushing Ahead or Towing Alongside	3-27
Vessels or Object Being Towed	3-29
Partly Submerged Vessel or Object	3-31
Special Circumstances	3-32
Illustrations	3-35
Self-Quiz	3-37
Answers to Self-Quiz	3-40
Exercise in Applying the Rules	3-42
Answers to Exercise	3-44

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 52 to 71, **Rule 24**

Power-Driven Vessel When Towing

Background This section presents an overview of Rule 24 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (a)

ADD: (above "Towing")
"Towing astern"

Rule 24 (a) is the same as International.

HIGHLIGHT: power-driven vessel, and towing

UNDERLINE: (Below the picture) 200 meters or less

(i) **ADD:** above "Rule 23 (a)(i)" with a line pointing to it
"Masthead"

UNDERLINE: two masthead lights, and three such lights

HIGHLIGHT: length of the tow, and exceeds

CIRCLE: 200 meters

(ii) **UNDERLINE:** sidelights

(iii) **UNDERLINE:** sternlight

(iv) **UNDERLINE:** towing light

(v) **UNDERLINE:** tow exceeds

CIRCLE: 200 meters

UNDERLINE: a diamond shape

UNDERLINE: (Below the picture) length of tow exceeds 200 meters

Composite Unit & Vessel Pushing Ahead or Towing Alongside

Background

This section presents an overview of Rule 24 (b) through (c) in the "Navigation Rules" book.

	INTERNATIONAL	INLAND
Rule 24 (b)	<p>HIGHLIGHT: pushing vessel and a vessel being pushed, and connected in, and a composite unit</p> <p>UNDERLINE: regarded as a power-driven vessel, and exhibit the lights, and in Rule 23</p> <p>ADD: (Below picture) "Over 50 meters in length"</p> <p>NOTE: Composite unit refers to rigidly connected by mechanical means. Treat this type vessel as one vessel.</p>	<p>Rule 24 (b) is the same as International.</p> <p>UNDERLINE: (Below picture) less than 50 meters in length</p>
Rule 24 (c)	<p>HIGHLIGHT: vessel, and pushing ahead, and alongside</p> <p>CIRCLE: except</p> <p>CIRCLE: composite unit</p> <p>(i) UNDERLINE: two masthead lights in a vertical line</p> <p>(ii) UNDERLINE: sidelights</p> <p>(iii) UNDERLINE: sternlight</p> <p>NOTE: Towing alongside refers to towing a vessel attached to the beam. Pushing ahead refers to pushing a vessel attached to the towing vessels bow. These are illustrated on page 62.</p> <p>ADD: (above the illustration) "No yellow towing light as with towing astern"</p>	<p>ADD: (Below "by paragraph (b)" with a line pointing to it) "Composite unit"</p> <p>ADD: (Below "and (i)" with a line pointing to it) "Western Rivers"</p> <p>(i) UNDERLINE: two masthead lights in a vertical line</p> <p>(ii) UNDERLINE: sidelights</p> <p>(iii) UNDERLINE: two towing lights</p> <p>ADD: (below paragraph) "yellow over yellow"</p> <p>ADD: (top of illustration) "Only difference is: International = 1 white sternlight Inland = 2 yellow towing lights"</p>

Composite Unit & Vessel Pushing Ahead or Towing Alongside

	INTERNATIONAL	INLAND
Rule 24 (d)	<p>ADD: (above "(a)" with a line pointing to it) <i>"towing astern"</i></p> <p>ADD: (above "(c)" with a line pointing to it) <i>"pushing ahead, or towing alongside"</i></p> <p>ADD: (after "23 (a)(ii)" with a line pointing to it) <i>"second masthead light aft"</i></p> <p>UNDERLINE: <u>second masthead light aft</u></p>	<p>Rule 24 (d) is the same as International.</p> <p>UNDERLINE: (Below picture) <u>When masthead lights for towing or pushing are exhibited aft, a forward masthead light is required</u></p>

Vessel or Object Being Towed

Background This section presents an overview of Rule 24 (e) and (f) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (e)

HIGHLIGHT: vessel or object
being towed

Rule 24 (e) is the same as
International.

ADD: (after "exhibit:") *"No
masthead light"*

(i) **UNDERLINE:** sidelights

(ii) **UNDERLINE:** sternlight

(iii) **HIGHLIGHT:** tow exceeds
200 meters

UNDERLINE: a diamond shape

ADD: (above the diamond shape
in the illustration) *"Tow over
200m"*

Vessel or Object Being Towed

INTERNATIONAL

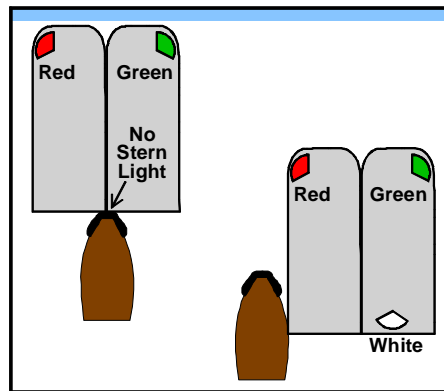
INLAND

Rule 24 (f)

HIGHLIGHT: any number, and being towed, and or pushed in a group

UNDERLINE: lighted as one vessel

EXAMPLE: This illustrates two objects being towed or pushed as one object.



(i) **HIGHLIGHT:** vessel, and pushed ahead, and part of a composite unit

CIRCLE: not

ADD: (after "sidelights;") *"only"*

UNDERLINE: sidelights only

(ii) **HIGHLIGHT:** vessel, and towed alongside

UNDERLINE: sternlight, and sidelights

Rule 24 (f) is the same as International **EXCEPT:**

(i) **UNDERLINE:** sidelights, and special flashing light

ADD: (at the end of paragraph

(i)) *"yellow 50-70 flashes per minute"*

Partly Submerged Vessel or Object

Background

This section presents an overview of Rule 24 (g) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (g)

HIGHLIGHT: partly submerged

(i) **UNDERLINE:** less than, and in breadth, one all-round white light, and near, and forward end, and near the after end

CIRCLE: 25 meters

HIGHLIGHT: except that dracones

(ii) **UNDERLINE:** or more in breadth, and two additional all-round white lights

CIRCLE: 25 meters

(iii) **UNDERLINE:** exceeds, and in length, and additional all-round white lights

CIRCLE: 100 meters

(iv) **HIGHLIGHT:** diamond shape, and additional diamond shape

UNDERLINE: last vessel, and exceeds 200 meters, and forward

EXAMPLE: This illustrates partly submerged objects being towed with the proper lights displayed.

Rule 24 (g) is the same as International **EXCEPT:**

(i) **ADD:** (After sub-paragraph (i)) *"No dracone provision"*

(iii) **HIGHLIGHT:** Provided

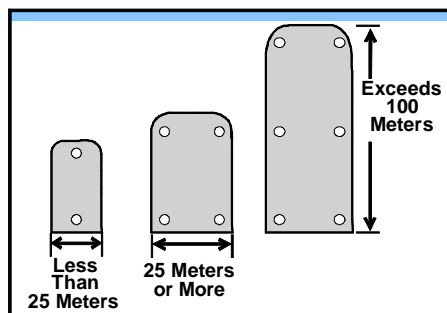
UNDERLINE: That any vessels or objects being towed alongside each other shall be lighted as one vessel or object;

(iv) **ADD:** (at the end of sub-paragraph (iv)) *"No provision for multiple day shapes if over 200 meters"*

(v) **ADD:** (before sub-paragraph (v)) *"Inland only"*

HIGHLIGHT: towing vessel

UNDERLINE: may direct a searchlight



Special Circumstances

Background

This section presents an overview of Rule 24 (h) through (j) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 24 (h)

HIGHLIGHT: impracticable, and to exhibit the lights or shapes

UNDERLINE: all possible measures shall be taken to light the vessel or object towed

ADD: (After paragraph)
"Example: use search lights, chem-lights, flashlights, etc."

NOTE: Any time it is not feasible to show tow lights or day shapes, the towing vessel must still use something to advertise the tow.

Rule 24 (h) is the same as International **EXCEPT:**

HIGHLIGHT: exhibit the lights

ADD: (below the paragraph)
"Only lights, NOT day shapes"

Rule 24 (i) Inland

HIGHLIGHT: Western Rivers, and pushing ahead or towing alongside

ADD & UNDERLINE: (in the picture with an arrow pointing to the mast) "No masthead lights"

NOTE: This was added to Inland Waters (Western Rivers) due to low bridge clearance.

Special Circumstances

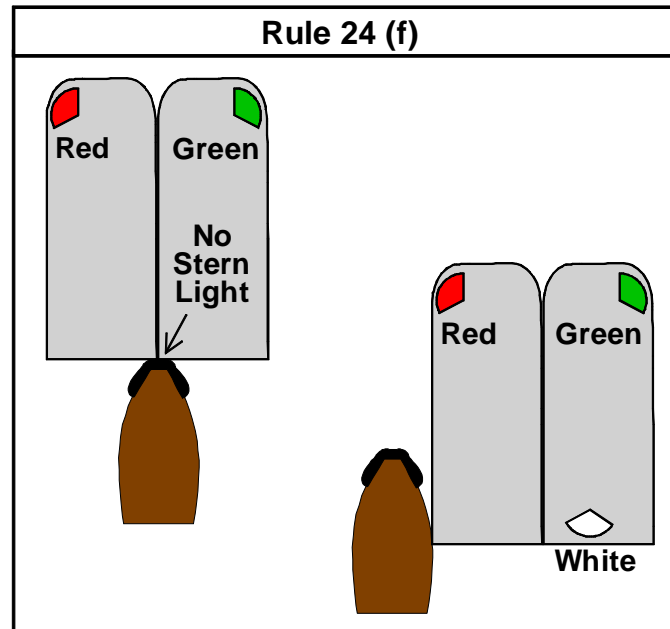
	INTERNATIONAL	INLAND
Rule 24 (i) International	<p>HIGHLIGHT: impracticable, and vessel not normally engaged in towing</p> <p>UNDERLINE: shall not be required to exhibit those <u>lights</u>, and <u>vessel in distress</u>, and <u>need of assistance</u>, and <u>by illuminating the towline</u></p> <p>ADD: (below paragraph) <i>"Example: Joe boater, towing in a stranded buddy's boat"</i></p> <p>NOTE: This waiver was added mostly for pleasure boaters acting as a good Samaritan who usually aren't towing other vessels. Vessel must still illuminate the tow in some fashion.</p>	Rule 24 (i) International is the same as Rule 24 (j) Inland .

Illustrations

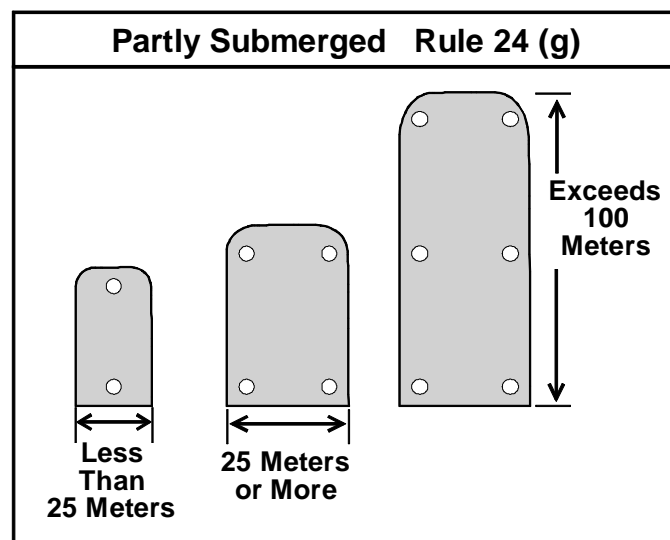
Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 60



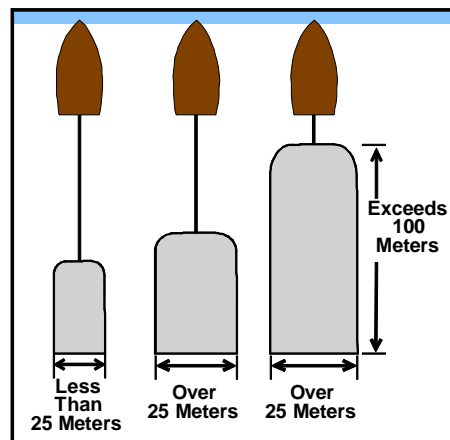
On Page 65



Self-Quiz

Questions

1. List the four lights required on a vessel that is towing.
2. What lights are displayed on a towing vessel when the length of the tow exceeds 200 meters astern?
3. What shape is displayed on a towing vessel when the length of the tow exceeds 200 meters astern?
4. What lights are displayed on a vessel pushing when rigidly connected in a composite unit?
5. List the three lights displayed on a vessel when pushing ahead or towing alongside in international waters.
6. List the three lights displayed on a vessel when pushing ahead or towing alongside in inland waters.
7. List the two lights displayed on a vessel or object being towed.
8. What shape would a vessel or object being towed display if the tow exceeds 200 meters?
9. In international waters, what lights would be displayed on a vessel being pushed ahead not part of a composite unit?
10. What two lights would be displayed on a vessel being pushed ahead in inland waters?
11. In international waters, what two lights would be displayed on a vessel being towed alongside?
12. On the figures of partly submerged objects/vessels being towed, place an "X" where a white light is to be placed.

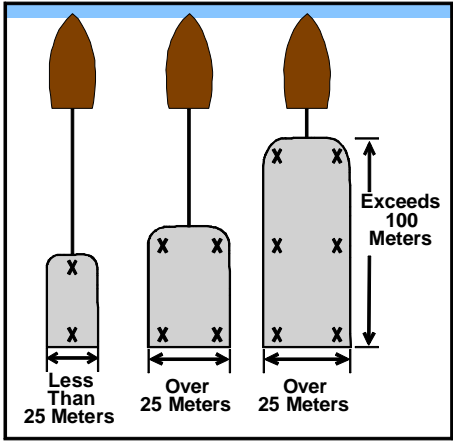


Self-Quiz

Questions (Continued)

13. What type shape is displayed on partly submerged vessels/objects being towed?
 14. What additional shape is displayed on partly submerged vessels/objects being towed when the length of tow exceeds 200 meters?
 15. What may be done to indicate a towing vessel's presence to an approaching vessel?
 16. What shall be done when it is impracticable for a vessel/object being towed to exhibit the lights or shapes required in international waters?
 17. What two lights are displayed on a power-driven vessel pushing ahead or towing alongside on Western Rivers?
 18. What type vessel is not required to exhibit the lights for towing?
-

Answers to Self-Quiz

Question	Answer	Rule
1	two masthead lights sidelights sternlight towing light	24 (a)(i) thru (iv)
2	three masthead lights	24 (a)(i)
3	a diamond	24 (a)(v)
4	same lights as a power-driven vessel	24 (b)
5	two masthead lights sidelights sternlight	24 (c)(i) thru (iii)
6	two masthead lights sidelights two towing lights	24 (c)(i) thru (iii)
7	sidelights sternlight	24 (e)(i), (ii)
8	a diamond	24 (e)(iii)
9	sidelights only	24 (f)(i)
10	sidelights and special flashing light	24 (f)(i)
11	sternlight sidelights	24 (f)(ii)
12		24 (g)(i) thru (iii)

Answers to Self-Quiz

Question	Answer	Rule
13	a diamond shape at or near the aftermost extremity of the last vessel/object	24 (g)(iv)
14	an additional diamond shape as far forward as practicable	24 (g)(iv)
15	direct a searchlight in the direction of the tow	24 (g)(v)
16	light the vessel/object or indicate its presence	24 (h)
17	sidelights two towing lights	24 (i)
18	a vessel not normally engaged in towing when towing a vessel in distress or in need of assistance	24 (j)

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. Match the lights/shapes listed in column B with the towing situations listed in column A. The lights/shapes may be used more than once.

Column A

Column B

- | | |
|--|---|
| _____ 1. lights needed for a 40-meter towing vessel towing two barges alongside in inland waters | a. three masthead lights in a vertical line |
| _____ 2. lights found on a composite unit | b. two masthead lights in a vertical line |
| _____ 3. found on towing vessels to indicate tow exceeds 200 meters | c. a diamond day shape |
| _____ 4. lights displayed on a towed vessel | d. side, stern, and masthead lights only |
| _____ 5. found on international vessels but not inland vessels when pushing ahead | e. yellow over yellow towing lights |
| | f. no yellow towing lights |
| | g. side and sternlights |
2. In International Rules, which lights can be removed if your vessel is less than 7 meters (maximum speed 7 knots)?
3. A vessel pushing ahead on the Western Rivers may show all lights required for a towing vessel EXCEPT _____.
-

Answers to Exercise

Question		Answer	Rule
1	1.	b, e, g	24 (c)(inland)
	2.	d	24 (b)
	3.	a, c	24 (a)
	4.	g	24 (e)
	5.	f	24 (c)
2		sidelights	23 (c)(ii)
3		masthead lights	24 (i)

LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson deals with the display of lights and shapes on sailing vessels underway, vessels under oars, and fishing vessels. It contains Rules 25 and 26.

Objectives

After completing this lesson, you will be able to:

- **LIST** the two lights required on a sailing vessel underway.
 - **STATE** what light a sailing vessel of less than 20 meters may display.
 - **STATE** what lights a sailing vessel may display in addition to the required lights.
 - **STATE** what a sailing vessel less than 7 meters and a vessel under oars shall display if they do not exhibit the prescribed lights.
 - **STATE** what shape is displayed for a vessel under sail also being propelled by machinery.
 - **STATE** what length vessel is not required to exhibit a shape when under sail and also being propelled by machinery in inland waters.
 - **LIST** the two lights to be displayed on vessels engaged in trawling.
 - **STATE** the shape to be displayed on vessels engaged in trawling.
 - **STATE** what length vessel engaged in trawling is not obliged to display the masthead light.
 - **STATE** what two additional lights a vessel engaged in trawling displays when making way through the water.
 - **STATE** what lights a vessel engaged in fishing displays.
 - **STATE** what shape a vessel engaged in fishing displays.
 - **STATE** what light or shape a vessel engaged in fishing displays when there is outlying gear extended more than 150 meters.
-

Overview

Objectives (Continued)

- **STATE** what two additional lights a vessel engaged in fishing displays when making way through the water.
-

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Sailing Vessels Underway & Vessels With Oars	3-47
Trawling	3-49
Fishing	3-50
Illustration	3-53
Self-Quiz	3-55
Answers to Self-Quiz	3-56
Exercise in Applying the Rules	3-57
Answers to Exercise	3-60

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 72 to 87, **Rules 25 and 26**

Sailing Vessels Underway & Vessels With Oars

Background This section presents an overview of Rule 25 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 25 (a)

HIGHLIGHT: sailing vessel underway

Rule 25 (a) is the same as International.

(i) **UNDERLINE:** sidelights

(ii) **UNDERLINE:** sternlight

NOTE: Sailing vessels have no masthead light.

Rule 25 (b)

UNDERLINE: less than, and be combined, and carried at or near the top of the mast

Rule 25 (b) is the same as International.

CIRCLE: 20 meters

DOUBLE UNDERLINE: may

ADD: (in picture with an arrow pointing to vessels on this and opposite page) *"One or the other, NOT BOTH"*

Rule 25 (c)

HIGHLIGHT: may, in addition, and at or near the top of the mast

Rule 25 (c) is the same as International.

UNDERLINE: two all-round lights, and upper being red and the lower green

ADD: (above paragraph with a line pointing to "in paragraph (a)") *"side & sternlights"*

ADD: (in picture, next to sailing vessel) *"Red over-green sailing machine."*

Sailing Vessels Underway & Vessels With Oars

	INTERNATIONAL	INLAND
Rule 25 (d)	(i) UNDERLINE: <u>less than</u> CIRCLE: 7 meters UNDERLINE: <u>have ready at hand an electric torch or lighted lantern</u>	Rule 25 (d) is the same as International.
	(ii) HIGHLIGHT: <u>under oars</u> UNDERLINE: <u>may exhibit the lights, and for sailing vessels, and have ready, and electric torch or lighted lantern</u> NOTE: A handheld flashlight meets the requirements of an electric torch.	
Rule 25 (e)	HIGHLIGHT: <u>propelled by machinery</u> UNDERLINE: <u>conical shape, apex downwards</u> MEMORY AID: Think of the cone as a funnel lowering oil into an engine.	Rule 25 (e) is the same as International EXCEPT: UNDERLINE: <u>less than, and may do so</u> CIRCLE: 12 meters HIGHLIGHT: <u>not required to exhibit this shape</u>

Trawling

Background

This section presents an overview of Rule 26 (a) and (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 26 (a)

HIGHLIGHT: engaged in fishing

Rule 26 (a) is the same as International.

UNDERLINE: underway or at anchor, and only the lights, and prescribed

Rule 26 (b)

HIGHLIGHT: engaged in trawling

Rule 26 (b) is the same as International.

ADD: (in upper left corner of page, with a line pointing to paragraph (b)) *"Trawling examples: shrimper, scalloper, clammer."*

(i) **HIGHLIGHT:** two all-round lights, and , and , and two cones

ADD: (In picture near lights) *"Green over white, trawling at night"*

(ii) **HIGHLIGHT:** masthead light

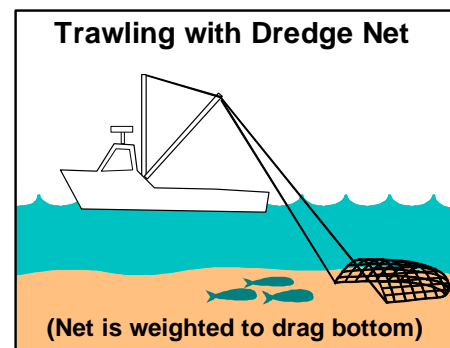
UNDERLINE: abaft of and higher than, and less than, and not be obliged, and may do so

CIRCLE: 50 meters

ADD: (In illustration with a line pointing to the masthead light) *"Need only for 50 meters or longer"*

(iii) **HIGHLIGHT:** making way through the water

UNDERLINE: sidelights, and sternlight



Fishing

Background

This section presents an overview of Rule 26 (c) thru (e) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 26 (c)

HIGHLIGHT: fishing, other than trawling

Rule 26 (c) is the same as International.

(i) **HIGHLIGHT:** two all-round lights, and two cones

CIRCLE: red

CIRCLE: white

ADD: (In picture near lights)
"Red over white, fishing at night"

(ii) **HIGHLIGHT:** outlying gear

UNDERLINE: extending more than, and white light, and cone

CIRCLE: 150 meters

(iii) **HIGHLIGHT:** making way through the water

UNDERLINE: sidelights, and sternlight

ADD: (in picture) *"No second masthead light for vessels over 50 meters"*

Fishing

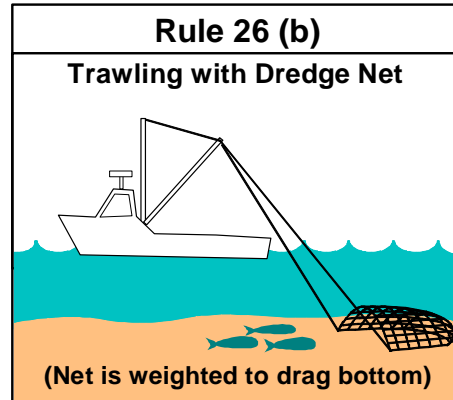
	INTERNATIONAL	INLAND
Rule 26 (d)	<p>HIGHLIGHT: additional signals described in Annex II</p> <p>UNDERLINE: <u>apply, and close proximity, and engaged in fishing</u></p> <p>NOTE: Additional lights for purse seiners and trawlers will be discussed in Part E - Annexes.</p>	Rule 26 (d) is the same as International.
Rule 26 (e)	<p>CIRCLE: not</p> <p>HIGHLIGHT: engaged in fishing</p> <p>UNDERLINE: <u>only those prescribed</u></p> <p>MEMORY AID: A way of remembering the difference between trawling and fishing lights.</p> <p>Trawling = green nets</p> <p>Fishing = red & white fish bobber.</p>	Rule 26 (e) is the same as International.

Illustration

Instructions

Cut out the following illustration and place it on the page indicated.

On Page 82



Self-Quiz

Questions

1. List the two lights required on a sailing vessel underway.
 2. What light may a sailing vessel of less than 20 meters display?
 3. What lights may a sailing vessel display in addition to the required lights?
 4. What should a sailing vessel under 7 meters and a vessel under oars display if they do not exhibit the prescribed lights?
 5. What shape is displayed for a vessel under sail when also propelled by machinery?
 6. What length vessel is not required to exhibit a shape when under sail and also being propelled by machinery in inland waters?
 7. List the two lights to be displayed on vessels engaged in trawling when not making way through water.
 8. What shape is displayed on vessels engaged in trawling?
 9. What size vessel engaged in trawling is not obliged to display a masthead light?
 10. What two additional lights does a vessel engaged in trawling display when making way through water?
 11. What lights does a vessel engaged in fishing display?
 12. What shape does a vessel engaged in fishing display?
 13. What light or shape does a vessel engaged in fishing display when there is outlying gear extended more than 150 meters?
 14. What two additional lights does a vessel engaged in fishing display when making way through water?
-

Answers to Self-Quiz

Question	Answer	Rule
1	sidelights sternlight	25 (a)(i)(ii)
2	lights combined in one lantern (sidelights/sternlight) near the top of the mast	25 (b)
3	two all-round lights (red over green) near the top of the mast	25 (c)
4	have ready at hand an electric torch or lighted lantern showing a white light, exhibited in sufficient time to prevent collision	25 (d)(ii)
5	conical shape, apex downwards	25 (e)
6	less than 12 meters	25 (e)
7	two all-round lights (green over white) masthead light abaft and higher	26 (b)(i)(ii)
8	two cones with apexes together	26 (b)(i)
9	vessel less than 50 meters	26 (b)(ii)
10	sidelights sternlight	26 (b)(iii)
11	two all-round lights (red over white)	26 (c)(i)
12	two cones with apexes together	26 (c)(i)
13	an all-round white light or cone apex upwards in direction of gear	26 (c)(ii)
14	sidelights sternlight	26 (c)(iii)

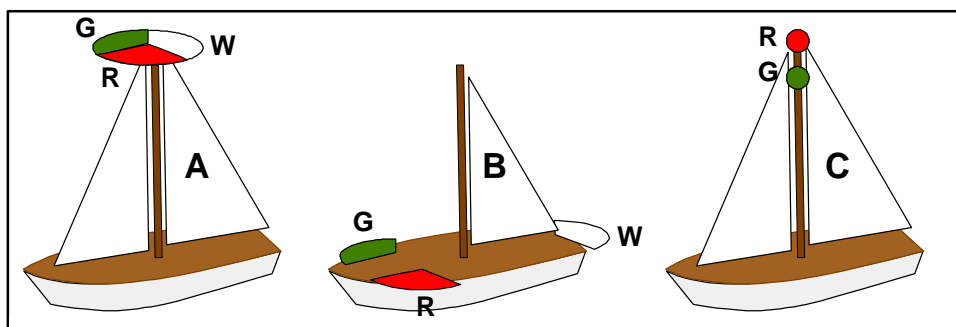
Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

Use the illustration below to answer questions 1 through 3.



1. Which lights are optional displays?
2. What is the maximum length of vessel "A"?
3. What lights are authorized to be displayed together on the same vessel?
4. Match the light configurations in column B with the situations in column A. Light configurations may be used more than once.

Column A

- _____ 1. lights required on sailing vessels over 20 meters
- _____ 2. optional mast light configuration on sailing vessels under 20 meters
- _____ 3. authorized display for sailing vessels over 20 meters
- _____ 4. cannot be used by any sailing vessel

Column B

- a. all-round red over green at masthead
- b. side and sternlights at deck level
- c. both a and b together
- d. side and sternlights combined in mast lantern
- e. both a and d together
- f. both b and d together
-

Exercise in Applying the Rules

Questions (Continued)

5. Electric torch or lighted lantern are authorized for what two vessels?
6. Match the descriptions in column A with the situations in column B. Situations may be used more than once.

Column A

Column B

- | | |
|---|---|
| _____ 1. conical shape, apex down | a. required fishing vessel day shape |
| _____ 2. cone, apex up | b. designate a sailing vessel also propelled by machinery |
| _____ 3. a shape consisting of two cones with their apexes together | c. required trawling fishing vessel day shape |
| | d. show fishing gear extended out 150 meters or more |
7. A white light on an outrigger or yardarm on a fishing vessel signifies the vessel _____.
8. Vessels engaged in trawling or fishing exhibit additional lights as listed in _____.
9. What lights are required for trawlers under 20 meters not making way?
10. What lights are found on fishing vessels at night while making way?
11. When NOT making way, trawlers and fishing vessels will extinguish _____.
-

Answers to Exercise

Question	Answer	Rule
1	A and C	25
2	less than 20 meters	25 (b)
3	B and C	25
4	1. b 2. a or d 3. c 4. e, f	25 (a) 25 (b) 25 (c) 25 (c)
5	sailing vessel under 7 meters vessel under oars	25 (d)(i)(ii)
6	1. b 2. d 3. a and c	25 (e) 26 (c)(ii) 26 (b)(i),(c)(i)
7	has gear out over 150 meters	26 (c)(ii)
8	Annex II	26 (d)
9	green over white	26 (b)(i)
10	red over white sidelight sternlight	26 (c)(i)(iii)
11	sidelights and sternlight	26 (b), (c)

LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson presents the display of lights and shapes on vessels not under command, restricted in their ability to maneuver, and vessels constrained by draft. It contains Rules 27 and 28.

Objectives

After completing this lesson, you will be able to:

- **STATE** what lights are displayed on a vessel not under command.
 - **STATE** what shapes are displayed on a vessel not under command.
 - **LIST** the two additional lights displayed on a vessel not under command when making way through the water.
 - **STATE** what lights are displayed on a vessel restricted in its ability to maneuver.
 - **STATE** what shapes are displayed on a vessel restricted in its ability to maneuver.
 - **LIST** the three additional lights displayed on a vessel restricted in its ability to maneuver when making way through the water.
 - **STATE** what additional lights and shapes, other than towing lights, are displayed on a vessel engaged in towing when severely restricted in its ability to deviate from its course.
 - **LIST** the three lights displayed by a vessel engaged in dredging or underwater operations.
 - **LIST** the three shapes displayed by a vessel engaged in dredging or underwater operations.
 - **STATE** what lights are displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard lights.
-

Overview

Objectives (Continued)

- **STATE** what shape is displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard shapes.
 - **STATE** what special lights are displayed on a vessel engaged in mineclearance operations.
 - **STATE** what shapes are displayed on a vessel engaged in mineclearance operations.
 - **STATE** what the lights or shapes indicate on a vessel engaged in mineclearance operations.
 - **STATE** what length vessels are not required to exhibit the lights and shapes prescribed in Rule 27.
 - **STATE** what additional lights may be displayed by a vessel constrained by its draft.
 - **STATE** what shape may be displayed by a vessel constrained by its draft.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Vessels Not Under Command	3-64
Restricted in Their Ability to Maneuver	3-65
Dredging or Underwater Operations	3-67
Mineclearance Operations	3-69
Exemptions	3-70
Vessels Constrained by Their Draft	3-71
Illustration	3-73
Self-Quiz	3-75
Answers to Self-Quiz	3-78
Exercise in Applying the Rules	3-79
Answers to Exercise	3-82

Reading Assignment

READ the following pages from the "Navigation Rules" Book:

Pages 88 to 103, **Rules 27 and 28**

Vessels Not Under Command

Background This section presents an overview of Rule 27 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (a)

HIGHLIGHT: not under command

Rule 27 (a) is the same as International.

NOTE: Not under command means having mechanical difficulty.

(i) **UNDERLINE:** two all-round red lights

(ii) **UNDERLINE:** two balls

(iii) **HIGHLIGHT:** when making way through the water

UNDERLINE: sidelights, and sternlight

ADD: (in picture with arrow pointing to mast) *"No masthead light"*

MEMORY AID: "Red over red, captain is dead"

Restricted in Their Ability to Maneuver

Background

This section presents an overview of Rule 27 (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (b)

HIGHLIGHT: restricted in her ability to maneuver

Rule 27 (b) is the same as International.

UNDERLINE: a vessel engaged in mineclearance operations

CIRCLE: except

(i) **UNDERLINE:** three all-round lights, and red, and white

(ii) **UNDERLINE:** three shapes, and balls, and diamond

(iii) **HIGHLIGHT:** when making way

UNDERLINE: sidelights, and sternlight

(iv) **HIGHLIGHT:** when at anchor

UNDERLINE: in addition, and prescribed in Rule 30

ADD: (after paragraph)
"anchored vessels"

NOTE: Rule 30 states:

By **day** - separate ball shape.

By **night** - separate all-round white light.

Restricted in Their Ability to Maneuver

	INTERNATIONAL	INLAND
Rule 27 (c)	<p>HIGHLIGHT: severely restricts the towing vessel and her tow in their ability to deviate from their course</p> <p>ADD: (below paragraph with a line pointing to 24 (a)) <i>"towing astern lights"</i></p> <p>ADD: (below paragraph with a line pointing to (b)(i) and (ii)) <i>"red over white over red lights, or ball diamond ball shapes"</i></p>	<p>Rule 27 (c) is the same as International.</p>

Dredging or Underwater Operations

Background

This section presents an overview of Rule 27 (d) and (e) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (d)

HIGHLIGHT: dredging or underwater operations, when restricted in her ability to maneuver, and in addition

Rule 27 (d) is the same as International.

ADD: (in upper right corner of page, with a line pointing to "sub-paragraphs (b)(i), (ii) and (iii)")
"red over white over red, ball diamond ball, and running lights"

NOTE: An example of underwater operations is cable laying.

(i) **UNDERLINE:** two all-round red lights or two balls, and obstruction exists

(ii) **UNDERLINE:** two all-round green lights or two diamonds, and vessel may pass

(iii) **HIGHLIGHT:** when at anchor

CIRCLE: instead of

ADD: (below the paragraph, with a line pointing from "instead of")
"anchor lights/shape"

NOTE: Do not display the lights or shapes for anchored vessels if engaged in underwater operations. Show underwater operations lights/shapes.

Dredging or Underwater Operations

	INTERNATIONAL	INLAND
Rule 27 (e)	<p>HIGHLIGHT: size of vessel, and diving operations, and impracticable to exhibit all lights and shapes</p> <p>(i) HIGHLIGHT: three all-round lights, and red, and white</p> <p>(ii) UNDERLINE: <u>rigid replica</u>, and <u>flag "A"</u>, and <u>not less than</u></p> <p>CIRCLE: 1 meter</p> <p>NOTE: Rigid means hard. The red and white Dive flag is not recognized by this rule.</p>	<p>Rule 27 (e) is the same as International.</p>

Mineclearance Operations

Background This section presents an overview of Rule 27 (f) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (f)

HIGHLIGHT: mineclearance operations

Rule 27 (f) is the same as International.

UNDERLINE: in addition, and exhibit three all-round green lights or three balls

CIRCLE: 1000 meters

HIGHLIGHT: dangerous for another vessel to approach

ADD: Draw a circle around the ship on page 96 and write the following on the circle. *"1000 meter danger area"*

Exemptions

Background

This section presents an overview of Rule 27 (g) and (h) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 27 (g)

UNDERLINE: less than, and shall not be required to exhibit

CIRCLE: 12 meters

HIGHLIGHT: except those engaged in diving

Rule 27 (g) is the same as International.

Rule 27 (h)

CIRCLE: are not

HIGHLIGHT: signals of vessels in distress

NOTE: Don't confuse red over red (not under command) and red/white/red (restricted in ability) with distress signals. They are only special conditions.

Rule 27 (h) is the same as International.

Vessels Constrained by Their Draft

Background

This section presents an overview of Rule 28 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 28

HIGHLIGHT: constrained by her draft

No Inland Rule.

UNDERLINE: may, in addition,
and three all-round red lights, and
or a cylinder

ADD: (below illustration)
"International only"





















MEMORY AID: The cylinder
looks like a "can" such as a "draft"
beer can.

Illustration

Instructions

Cut out the following illustration and place it on the page indicated.

On Page 103

Summary of Shapes					
Shape	Rule	Meaning	Shape	Rule	Meaning
	24 (a)(v) 24 (a)(iii) 24 (a)(iv)	Vessel TOWING and vessel BEING TOWED when the length of tow exceeds 200 meters		27 (d)(i)(ii)	DREDGING or UNDERWATER operations when restricted in ability to maneuver
	25 (e)	Vessel UNDER SAIL when also being propelled by machinery			
	26 (b)(i)	FISHING or TRAWLING			
	26 (c)(i)				
	26 (c)(ii)	Fishing GEAR EXTENDING more than 150 meters horizontally from vessel			
	27 (a)(ii)	NOT UNDER COMMAND			
	27 (B)(ii)	RESTRICTED in ability to maneuver			
					
					
					

Self-Quiz

Questions

1. What lights are displayed on a vessel not under command?
 2. What shapes are displayed on a vessel not under command?
 3. List the two additional lights displayed on a vessel not under command when making way through water.
 4. What lights are displayed on a vessel restricted in its ability to maneuver?
 5. What shapes are displayed on a vessel restricted in its ability to maneuver?
 6. List the three additional lights that are displayed on a vessel restricted in its ability to maneuver.
 7. What additional lights and shapes, other than towing lights, are displayed on a vessel engaged in towing when severely restricted in its ability to deviate from its course?
 8. List the three lights displayed on a vessel engaged in dredging or underwater operations.
 9. List the three shapes displayed on a vessel engaged in dredging or underwater operations.
 10. What lights are displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard lights?
 11. What shape is displayed on a vessel engaged in diving operations whenever the size of the vessel makes it impracticable to exhibit the standard shapes?
 12. What special lights are displayed on a vessel engaged in mineclearance operations?
 13. What shapes are displayed on a vessel engaged in mineclearance operations?
 14. What do the lights or shapes indicate on a vessel engaged in mineclearance operations?
-

Self-Quiz

Questions (Continued)

15. What length vessels, with the exception of those engaged in diving operations, are not required to exhibit the lights and shapes prescribed in Rule 27?
 16. What additional lights may be displayed by a vessel constrained by its draft?
 17. What shape may be displayed by a vessel constrained by its draft?
-

Answers to Self-Quiz

Question	Answer	Rule
1	two all-round red lights	27 (a)(i)
2	two balls	27 (a)(ii)
3	sidelights sternlight	27 (a)(iii)
4	three all-round lights (red over white over red)	27 (b)(i)
5	three shapes (ball diamond ball)	27 (b)(ii)
6	masthead light sidelights sternlight	27 (b)(iii)
7	red over white over red/ball diamond ball	27 (c)
8	red over white over red two all-round red lights (on obstruction side) two all-round green lights (on side vessel may pass)	27 (d) 27 (d)(i) 27 (d)(ii)
9	ball diamond ball two balls (on obstruction side) two diamonds (on side vessel may pass)	27 (d) 27 (d)(i) 27 (d)(ii)
10	red over white over red	27 (e)(i)
11	a rigid replica of the International Code flag "A"	27 (e)(ii)
12	three all-round green lights (one near foremast head, one on each end of the fore yard)	27 (f)
13	three balls (one near foremast head, one on each end of the fore yard)	27 (f)
14	it is dangerous for another vessel to approach within 1000 meters	27 (f)
15	vessels less than 12 meters	27 (g)
16	three all-round red lights	28
17	a cylinder	28

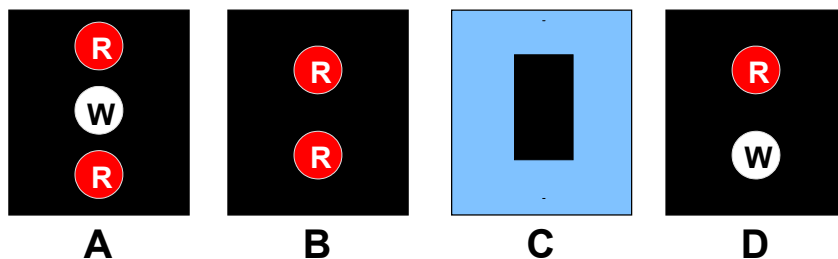
Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

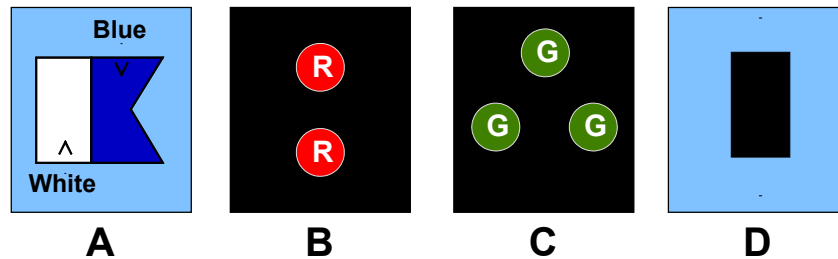
1. Vessels over 50 meters not under command will show _____.
2. Vessels under 50 meters not under command will NOT show _____ even if making way.
3. Vessels restricted in ability to maneuver must display _____ during daylight hours.
4. To advertise a dive vessel at night _____ will be displayed.
5. Dredge vessels display what special lights/shapes to indicate the side on which another vessel may pass day/night?
6. Dredge vessels display what special lights/shapes to indicate the side on which another vessel may not pass day/night?
7. When unable to deviate from course, a vessel over 50 meters engaged in towing inland whose tow extends out over 200 meters is required to show _____.
8. A mineclearance vessel will show what lights to ensure other vessels do not come within 1000 meters?
9. State the three requirements for Code flag "A" displayed aboard dive vessels.
10. Place the following illustrations in alphabetical order for responsibility between vessels.



Exercise in Applying the Rules

Questions (Continued)

11. Circle all the optional lights/shapes illustrated below for vessels under 12 meters.

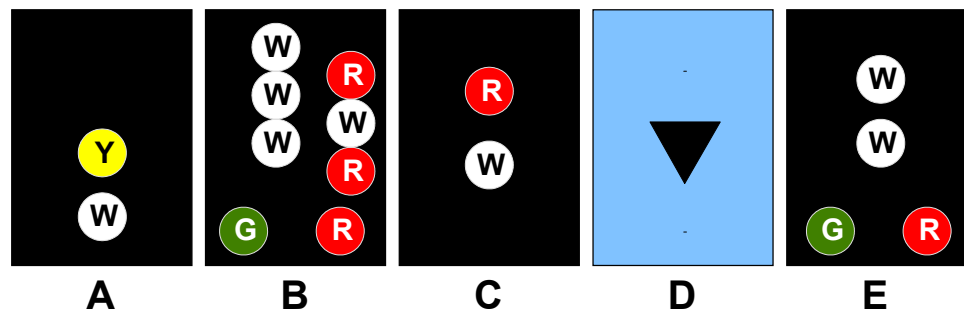


12. If in inland waters a power vessel displays a cylinder day shape, what would you call this vessel?

Use the following scenario to answer questions 13 through 15. A vessel constrained by draft is overtaking a vessel showing green over white.

13. Which vessel has the right-of-way (stand on)?
14. What special lights will the overtaking vessel display?
15. What activity is the overtaken vessel engaged in?

Use the illustrations below to answer questions 16 through 22.



16. When not in a narrow channel, traffic separation scheme, or overtaking situation, the vessel in "C" must give way to vessel ____.
17. Which day shape once removed would prohibit a vessel from impeding traffic in a traffic separation scheme?
-

Exercise in Applying the Rules

Questions (Continued)

18. Which illustration is showing lights having an arc of 135° of visibility?
 19. Which illustration indicates a vessel pushing ahead while rigidly connected?
 20. Which day shape is not required on inland waters if the vessel is under 12 meters in length?
 21. Which light display is an optional display for vessels under 50 meters?
 22. Which light display or day shape indicates a vessel may be conducting work in a traffic separation zone?
-

Answers to Exercise

Question	Answer	Rule
1	red over red lights	27 (a)
2	masthead light	27 (a)
3	day shape (ball diamond ball)	27 (b)
4	three lights (red over white over red)	27 (e), (g)
5	two diamonds/two green lights	27 (d)(i)
6	two balls/two red lights	27 (d)(ii)
7	masthead lights, yellow over white astern, sidelights, red over white over red	27 (c)
8	three green lights (one at foremast and one at each yardarm)	27 (f)
9	1 meter in height rigid replica ensure all-round visibility	27 (e)(ii)
10	B, A, C, D	27 (a), 27 (b), 28, 18
11	B, C, D	27 (a), 27 (f), 27 (g), 28
12	power-driven vessel	3, 28
13	vessel being overtaken (trawler)	13
14	red over red over red	28
15	trawling	26 (b)(i)
16	B	27 (c), 26 (c), 18 (c)
17	D	25 (e), 10 (j)
18	A	21 (c)

Answers to Exercise

Question		Answer	Rule
19	E		24 (b)
20	D		25 (e)
21	E		23 (a)
22	C		26 (c), 10 (e) (ii)

LESSON 3 - CONTINUED

PART C - LIGHTS AND SHAPES

Overview

Introduction

This lesson presents the display of lights and shapes on pilot vessels, anchored vessels, vessels aground, and seaplanes. It contains Rules 29 through 31.

Objectives

After completing this lesson, you will be able to:

- **STATE** what lights are displayed on a vessel engaged on pilotage duty.
 - **STATE** what additional lights are displayed on a vessel engaged on pilotage duty when underway.
 - **STATE** what additional lights are displayed on a vessel engaged on pilotage duty when at anchor.
 - **STATE** what lights are displayed on a vessel at anchor.
 - **STATE** the maximum length vessel that may exhibit one all-round white light instead of two all-round lights when at anchor.
 - **STATE** what vessels at anchor shall illuminate their decks.
 - **STATE** what shapes a vessel aground displays.
 - **STATE** what lights a vessel aground displays.
 - **STATE** what length vessel when at anchor is not required to display anchor lights/shapes.
 - **STATE** what length vessel when aground is not required to display anchor/aground lights/shapes.
 - **STATE** what length vessel at anchor in a special anchorage area in inland waters is not required to display anchor lights/shapes.
 - **STATE** where a seaplane shall exhibit lights and shapes when it is impracticable to display them as required.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Pilot Vessels	3-87
Anchored Vessels	3-88
Vessels Aground & Seaplanes	3-89
Self-Quiz	3-91
Answers to Self-Quiz	3-92
Exercise in Applying the Rules	3-93
Answers to Exercise	3-96

Reading Assignment

READ the following pages from the "Navigation Rules" Book:

Pages 104 to 113, **Rules 29-31**

Pilot Vessels

Background

This section presents an overview of Rule 29 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 29 (a)

HIGHLIGHT: pilotage duty

Rule 29 (a) is the same as International.

(i) **UNDERLINE:** two all-round lights, and upper being white, and lower red

ADD: (in illustration) *"White over red, pilot ahead"*

(ii) **HIGHLIGHT:** when underway

UNDERLINE: sidelights and a sternlight

ADD: (in picture with an arrow pointing to the mast) *"No masthead light"*

(iii) **HIGHLIGHT:** when at anchor

UNDERLINE: in addition

Anchored Vessels

Background This section presents an overview of Rule 30 (a) through (c) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 30 (a)

HIGHLIGHT: at anchor

Rule 30 (a) is the same as International.

(i) **HIGHLIGHT:** in the fore part

UNDERLINE: white light or, and ball

(ii) **HIGHLIGHT:** at or near the stern and at a lower level

UNDERLINE: white light

Rule 30 (b)

UNDERLINE: less than, and may exhibit, and white light

Rule 30 (b) is the same as International.

CIRCLE: 50 meters

Rule 30 (c)

HIGHLIGHT: at anchor

Rule 30 (c) is the same as International.

CIRCLE: may

UNDERLINE: vessel of, and and more in length, and illuminate her decks

CIRCLE: 100 meters

CIRCLE: shall

Vessels Aground & Seaplanes

Background

This section presents an overview of Rule 30 (d) through 31 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 30 (d)

HIGHLIGHT: aground

UNDERLINE: in addition

ADD: (under "paragraph (a) and (b)") *"anchor lights"*

(i) **UNDERLINE:** two, and red lights

(ii) **UNDERLINE:** three balls

MEMORY AID: "Red over red, the Captain is dead" (Not under command)

MEMORY AID: Think of the three balls as CO, XO, and OPS.

MEMORY AID: Knuckle Head = NUC-AL = Not Under Command plus Ancor Lights

Rule 30 (d) is the same as International.

Rule 30 (e)

HIGHLIGHT: when at anchor, not in or near, and where other vessels normally navigate

UNDERLINE: less than, and shall not be required

CIRCLE: 7 meters

NOTE: This exempts vessels under 7 meters from displaying anchor lights or shapes when outside normal traffic areas.

Rule 30 (e) is the same as International.

Vessels Aground & Seaplanes

	INTERNATIONAL	INLAND
Rule 30 (f)	<p>HIGHLIGHT: when aground</p> <p>UNDERLINE: <u>less than</u>, and <u>shall not be required</u></p> <p>CIRCLE: 12 meters</p> <p>ADD: (under paragraph, with a line pointing to "subparagraphs (d)(i) and (ii)") <i>"anchor lights, not under command, three balls"</i></p> <p>NOTE: This exempts vessels under 12 meters if aground from displaying lights and shapes.</p>	<p>Rule 30 (f) is the same as International.</p>
Rule 30 (g)	<p>No International Rule 30 (g).</p>	<p>HIGHLIGHT: when at anchor in a special anchorage area</p> <p>UNDERLINE: <u>less than</u>, and <u>shall not be required</u></p> <p>CIRCLE: 20 meters</p>
Rule 31	<p>HIGHLIGHT: impracticable, and seaplane</p> <p>UNDERLINE: <u>shall exhibit</u>, and <u>closely similar</u></p> <p>NOTE: Normally, seaplanes can't exactly match the described lights and shapes. Therefore, they are allowed to show these lights and shapes the best they can to meet requirements.</p>	<p>Rule 31 is the same as International.</p>

Self-Quiz

Questions

1. What lights are displayed on a vessel engaged on pilotage duty?
 2. What additional lights are displayed on a vessel engaged on pilotage duty when underway?
 3. What additional lights/shapes are displayed on a vessel engaged on pilotage duty when at anchor?
 4. What lights are displayed on a vessel over 50 meters at anchor?
 5. What is the maximum length vessel that may exhibit an all-round white light instead of two when at anchor?
 6. What vessels at anchor shall illuminate their decks?
 7. What lights does a vessel aground display?
 8. What shapes does a vessel aground display?
 9. When at anchor, what length vessel is not required to display anchor lights/shapes?
 10. What length vessel when aground is not required to display anchor/aground lights/shapes?
 11. What length vessel at anchor in a special anchorage area in inland waters is not required to display anchor lights/shapes?
 12. Where does a seaplane exhibit lights and shapes when it is impracticable to display them as required?
-

Answers to Self-Quiz

Question	Answer	Rule
1	two all-round lights (white over red)	29 (a)(i)
2	sidelights and sternlight	29 (a)(ii)
3	anchor lights or ball and two all-round lights (white over red)	29 (a)(iii)
4	all-round white lights, one in the fore part and one at or near the stern lower than the other	30 (a)(i)(ii)
5	vessel less than 50 meters	30 (b)
6	all may, and vessels of 100 meters or more shall	30 (c)
7	anchor lights and two all-round red lights	30 (d)(i)
8	three balls	30 (d)(ii)
9	vessel less than 7 meters	30 (e)
10	vessel less than 12 meters	30 (f)
11	vessel less than 20 meters	30 (g)
12	as closely similar in characteristics and position as is possible	31

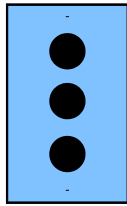
Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. In what three situations would a vessel displaying all-round red lights not display a second masthead light when underway?
2. The illustration below indicates _____.



3. Select the vessels not required to show anchor lights while at anchor.
 - a) 17-ft fishing vessel not near navigable waters
 - b) Barge in a channel
 - c) 14-ft sailing vessel in a special anchorage
 - d) Vessel in an anchorage
 - e) Vessel that has lost power
-

Exercise in Applying the Rules

Questions (Continued)

4. Match the vessel size in column A with their vessel requirements in column B. Vessel requirements will be used only once.

Column A

Column B

- | | |
|------------------------------|---|
| _____ 1. less than 7 meters | a. vessels at anchor require no lights/shapes |
| _____ 2. less than 12 meters | b. vessels at anchor in special anchorages require no lights/shapes |
| _____ 3. less than 20 meters | c. vessels aground require no lights/shapes |
| | d. vessels aground require deck lights/shapes |

5. Match the lights/shapes in column B to the vessel that would display them in column A. Lights and shapes will be used only once.

Column A

Column B

- | | |
|--|--|
| _____ 1. pilot vessel | a. white deck lights |
| _____ 2. vessel constrained by draft | b. red over red lights |
| _____ 3. dive vessel | c. red over white over red lights |
| _____ 4. anchored vessel over 100 meters | d. white over red lights |
| _____ 5. anchored vessel under 50 meters | e. one white light forward |
| _____ 6. a vessel aground | f. three red lights in a vertical line |
| _____ 7. vessel not under command | g. three balls in a vertical line |
| | h. three green lights where best seen |

6. When anchored in a special anchorage area designated by the Secretary, which vessels are not required to show anchor light?
7. Seaplanes are only required to show lights/shapes as close as possible to the Rules in respect to _____.
-

Answers to Exercise

Question	Answer	Rule
1	vessel not under command vessel engaged in fishing pilot vessel (engaged in)	27 (a) 26 (c) 29 (a)
2	a vessel aground	30 (d)(ii)
3	A, C	30 (e)
4	1. a 2. c 3. b	30 (e) (f) (g)
5	1. d 2. f 3. c 4. a 5. e 6. g 7. b	29 (a) 28 27 (e) 30 (c) 30 (b) 30 (d) 27
6	vessels less than 20 meters	30 (g)
7	characteristic and position	31

LESSON 4

PART D - SOUND AND LIGHT SIGNALS

Overview

Introduction

This lesson deals with the definition of sound and light signals, equipment for sound signals, and maneuvering and warning signals required by vessels in sight of one another. It includes Rules 32 through 34.

Objectives

After completing this lesson, you will be able to:

- **STATE** what the term "whistle" means.
 - **STATE** the duration of a "short blast."
 - **STATE** the duration of a "prolonged blast."
 - **STATE** what sound device(s) a vessel 12 meters or more in length shall be provided with.
 - **STATE** what sound device(s) a vessel 100 meters or more in length shall be provided with.
 - **STATE** what sound device(s) a vessel less than 12 meters in length shall be provided with if it does not carry the normally required sound devices.
 - **MATCH** the meaning of maneuvering signals when maneuvering, meeting, or crossing with the proper sound signal.
 - **STATE** at what distance power-driven vessels in sight of one another and meeting or crossing are required to indicate maneuvering by whistle signals in inland waters.
 - **STATE** what a vessel shall do in inland waters upon hearing a maneuvering whistle signal of another vessel if in agreement.
 - **STATE** what a vessel may supplement the maneuvering whistle signals with.
 - **STATE** the color and minimum range of the all-round maneuvering light that may be used in international waters.
-

Overview

Objectives (Continued)

- **STATE** the color and minimum range of the all-round maneuvering light that may be used in inland waters.
 - **MATCH** the meaning of maneuvering signals with the proper sound signal when overtaking.
 - **STATE** what a vessel about to be overtaken shall sound to indicate its agreement to an overtaking signal in international waters.
 - **STATE** what a vessel about to be overtaken shall sound to indicate its agreement to an overtaking signal in inland waters.
 - **STATE** what signal is sounded to indicate doubt as to the intentions of an overtaking vessel.
 - **STATE** what signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured.
 - **STATE** what signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured and you hear one prolonged blast.
 - **STATE** what signal is given when a vessel is leaving a dock or berth in inland waters.
 - **STATE** what a vessel should do if it reaches agreement with another vessel in a meeting, crossing, or overtaking situation by using the radiotelephone.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Definitions	4-4
Equipment for Sound Signals	4-5
In Sight of / Meeting or Crossing	4-6
Supplementary Lights	4-7
Overtaking	4-8
Special Conditions	4-10
Illustrations	4-13
Self-Quiz	4-17
Answers to Self-Quiz	4-20
Exercise in Applying the Rules	4-22
Answers to Exercise	4-24

Reading Assignment

READ the following pages from the "Navigation Rules" book:

Pages 114 to 119, **Rules 32-34**

Definitions

Background

This section presents an overview of the main parts of Rule 32 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 32 (a)

HIGHLIGHT: "whistle"

Rule 32 (a) is the same as International.

UNDERLINE: any, and appliance capable of producing, and specifications in Annex III

NOTE: Whistle technical requirements vary with vessel size and are defined in Annex III.

Rule 32 (b)

HIGHLIGHT: "short blast"

Rule 32 (b) is the same as International.

UNDERLINE: about one second's duration

Rule 32 (c)

HIGHLIGHT: "prolonged blast"

Rule 32 (c) is the same as International.

UNDERLINE: four to six seconds' duration

NOTE: The term *long blast* is no longer used.

Equipment for Sound Signals

Background

This section presents an overview of the main parts of Rule 33 in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 33 (a)

CIRCLE: 12 meters






UNDERLINE: or more, and whistle and a bell

CIRCLE: 100 meters

UNDERLINE: or more, and in addition, and a gong, and cannot be confused with that of the bell

NOTE: A gong shall have a tone that cannot be mistaken for that of a bell. Also, bells and gongs must meet size and audibility requirements listed in Annex III.

Rule 33 (a) is the same as International.

Vessel Length	Sound Device	
Less than 12 meters	Any Device	
12 to 10 meters	 Whistle	 Bell
Over 100 meters	 Whistle	 Bell  Gong

Rule 33 (b)

UNDERLINE: less than, and shall not be obliged, and but, and shall, and some other means

CIRCLE: 12 meters

NOTE: Vessels less than 12 meters in length must have a sound-producing device capable of making sound signals. These sound-producing devices may include but aren't limited to cowbells, police whistles, air canister horns, pots & pans, and conch shell.

Rule 33 (b) is the same as International.

In Sight of / Meeting or Crossing

Background

This section presents an overview of the main parts of Rule 34 (a) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (a)

ADD: (above "RULE 34")
"Signals of Action"

HIGHLIGHT: in sight of, and power-driven vessel

UNDERLINE: shall indicate, and on her whistle

UNDERLINE: one short, and I am, and starboard

UNDERLINE: two short, and I am, and port

UNDERLINE: three short, and I am, and astern

ADD: (above "RULE 34")
"Signals of Intent and Reply"

HIGHLIGHT: power-driven vessel, and in sight, and within half a mile

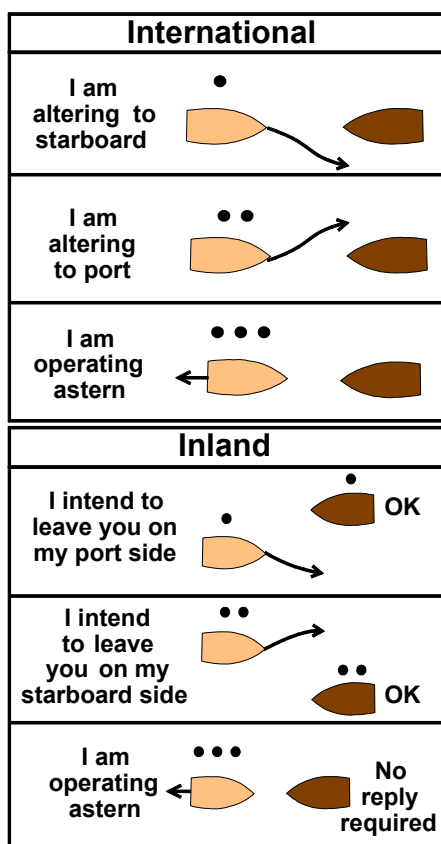
CIRCLE: half a mile

(i) **UNDERLINE:** one short, and I intend, and on my port side, and two short, and I intend, and on my starboard side, and three short, and I am, and operating astern

ADD: (after "astern propulsion")
"only 'action' signal Inland"

(ii) **HIGHLIGHT:** upon hearing the one or two blast signal, and if in agreement, sound the same whistle signal, and vessel doubts the safety, and sound the danger signal

NOTE: Vessels that hear these Inland signals **shall** answer with the same signal if in agreement and if necessary, take action to effect passing. However, they may not need to maneuver. If **not** in agreement, sound the danger signal. (covered in rule 34(d))



● = Short blast

Supplementary Lights

Background

This section presents an overview of the main parts of Rule 34 (b) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (b)

HIGHLIGHT: may supplement

UNDERLINE: by light signals

NOTE: A maneuvering light may be used and if used shall be executed with the whistle.

(i) **UNDERLINE:** one flash, and two flashes, and three flashes

NOTE: These light signals have the same characteristics as the whistle signals.

(ii) **HIGHLIGHT:** duration

UNDERLINE: about one second, and about one second, and not less than ten seconds

EXAMPLE: A vessel signals one flash (altering to starboard) waits ten or more seconds, then signals two short flashes (altering to port). This is so the one and two short flashes are not possibly confused for three short flashes.

(iii) **HIGHLIGHT:** all-round white light

UNDERLINE: minimum range of

CIRCLE: 5 miles

(i) **ADD:** (after paragraph) *"Signals are NOT repeated."*

(ii) **ADD:** (after paragraph) *"No time interval given between flashes or signals."*

(iii) **HIGHLIGHT:** all-round white or yellow light

UNDERLINE: minimum range of

CIRCLE: 2 miles

Overtaking

Background

This section presents an overview of the main parts of Rule 34 (c) and (d) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (c)

HIGHLIGHT: in sight, and narrow channel or fairway

ADD: (above "narrow channel or fairway") *"Only time rule applies"*

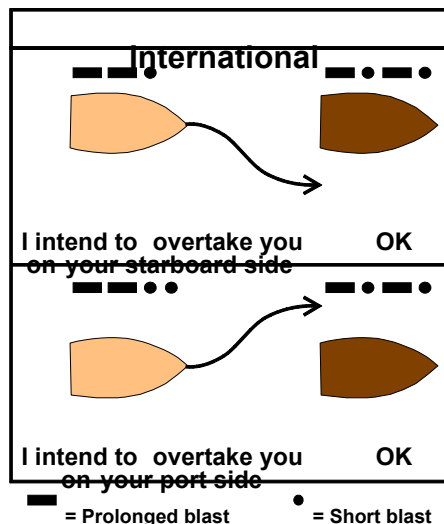
(i) **HIGHLIGHT:** to overtake another

UNDERLINE: two prolonged blasts, and one short blast, and two prolonged blasts, and two short blasts

to be overtaken, and agreement

UNDERLINE: one prolonged, one short, one prolonged, and one short blast

MEMORY AID: This whistle is the Morse code equivalent for "C" (charlie).



HIGHLIGHT: When in sight of one another

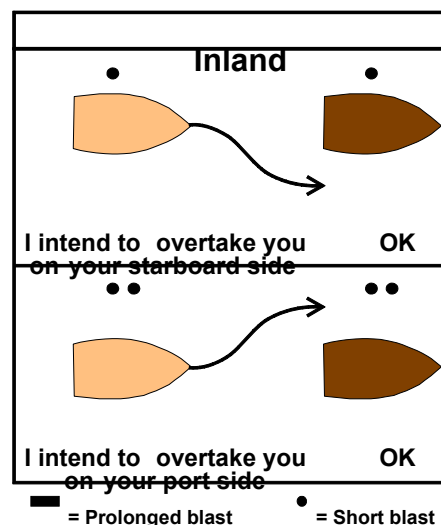
(i) **UNDERLINE:** one short blast, and two short blasts

(ii) **HIGHLIGHT:** agreement

UNDERLINE: sound a similar sound signal

NOTE: If in agreement, a vessel being overtaken should sound the same 1 or 2 whistle signal the overtaking vessel sounded.

Overtaking signals require an answering signal or *permission* from the vessel being overtaken.



Overtaking

	INTERNATIONAL	INLAND
Rule 34 (d)	<p>HIGHLIGHT: fails to understand, and or is in doubt</p> <p>UNDERLINE: <u>indicate such doubt by giving at least, and short and rapid blasts</u></p> <p>CIRCLE: five</p>	<p>Rule 34 (d) is the same as International.</p>

Special Conditions

Background

This section presents an overview of the main parts of Rule 34 (e) through (h) in the "Navigation Rules" book.

INTERNATIONAL

INLAND

Rule 34 (e)

HIGHLIGHT: nearing a bend or, and where other vessel may be obscured

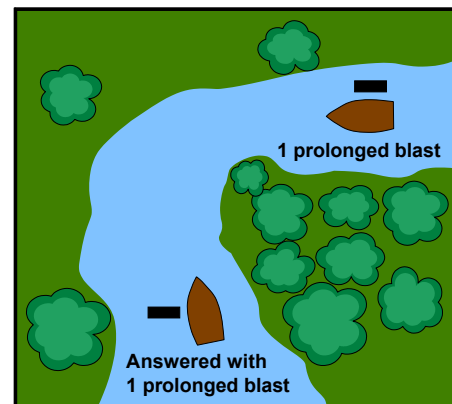
UNDERLINE: shall sound one prolonged blast

HIGHLIGHT: Such signal shall be answered

UNDERLINE: with a prolonged blast

ADD: (to the left of paragraph) "Bend Signal"

Rule 34 (e) is the same as International.



Rule 34 (f)

NOTE: If a large vessel has two or more whistles which are more than 100 meters apart, use only one for the previously mentioned signals due to the fact that other vessels may mistake them for two different vessels.

Rule 34 (f) is the same as International.

Special Conditions



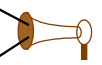


	INTERNATIONAL	INLAND
Rule 34 (g)	Rule 34 (g) doesn't apply to International.	HIGHLIGHT: leaving a dock or berth UNDERLINE: <u>sound one prolonged blast</u> NOTE: Remember that this rule is Inland only.
Rule 34 (h)	Rule 34 (h) doesn't apply to International.	HIGHLIGHT: reaches agreement, and by using the radiotelephone UNDERLINE: <u>is not obliged to sound the whistle signals, and but may</u> NOTE: Remember that this rule is Inland only.

Illustrations

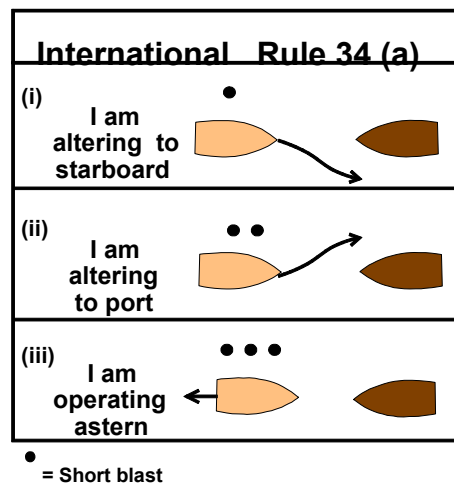
Instructions

Cut out the following illustrations and place them on the pages indicated.

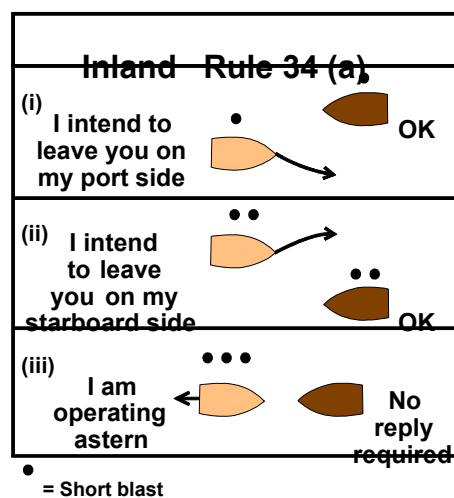
On Page 114

Rule 33 (a)	
Vessel Length	Sound Device
Less than 12 meters	Any Device
12 to 10 meters	 Whistle  Bell
Over 100 meters	 Whistle  Bell  Gong

On Page 116



On Page 117

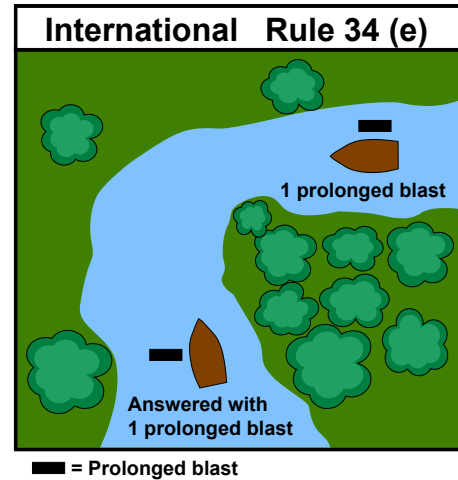
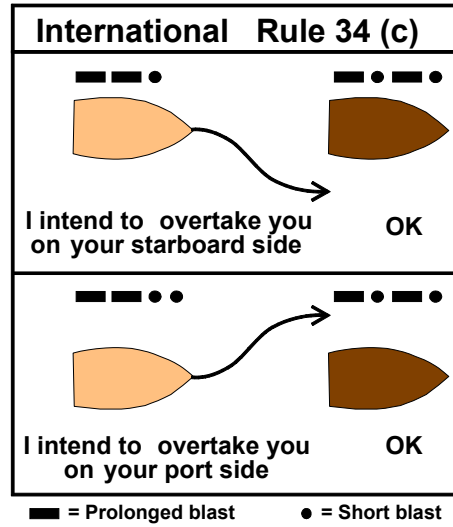


Illustrations

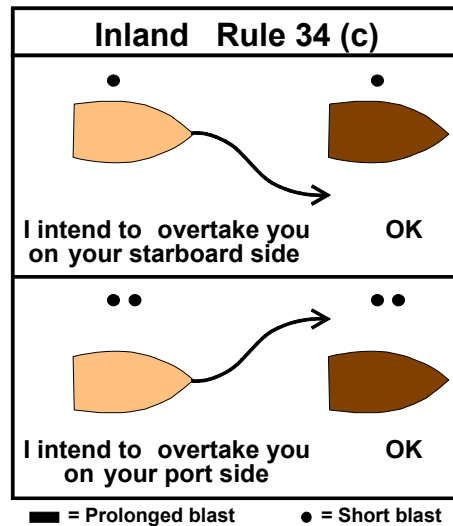
Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 118



On Page 119



Self-Quiz

Questions

1. What does the term "whistle" mean?
2. What is the duration of a short blast?
3. What is the duration of a prolonged blast?
4. What sound device(s) shall a vessel 12 meters or more in length be provided with?
5. What sound device(s) shall a vessel 100 meters or more in length be provided with?
6. What sound device(s) shall a vessel less than 12 meters in length be provided with if it does not carry the normally required sound devices?
7. Match the meaning of maneuvering signals in column B used when maneuvering within international waters or when meeting or crossing within inland waters with the proper sound signal in column A. Meanings will be used only once.

Column A

Column B

- | | |
|---|---|
| _____ 1. three short blasts (International) | a. I intend to operate astern propulsion |
| _____ 2. one short blast (International) | b. I intend to leave you on my port side |
| _____ 3. two short blasts (International) | c. I doubt the safety |
| _____ 4. three short blasts (Inland) | d. I intend to leave you on my starboard side |
| _____ 5. one short blast (Inland) | e. I am operating astern propulsion |
| _____ 6. two short blasts (Inland) | f. I am altering course to starboard |
| | g. I am altering course to port |
| 8. At what distance are power-driven vessels in sight of one another and meeting or crossing required to indicate maneuvering by whistle signals in inland water? | |
-

Self-Quiz

Questions (Continued)

9. What shall a vessel do upon hearing a maneuvering whistle signal of another vessel if in agreement in inland waters?
10. What may a vessel supplement the maneuvering whistle signals with?
11. What is the color and minimum range of the all-round maneuvering light that may be used in international waters?
12. What is the color and minimum range of the all-round maneuvering light that may be used in inland waters?
13. Match the meaning of maneuvering signals in column B used when overtaking in a narrow channel within international waters or when overtaking within inland waters with the proper sound signal in column A. Meanings will be used only once.

Column A

Column B

- | | |
|--|--|
| _____ 1. two prolonged blasts followed by two short blasts (International) | a. I am overtaking you on your starboard side |
| _____ 2. one short blast (Inland) | b. I intend to overtake you on your port side |
| _____ 3. two prolonged blasts followed by one short blast (International) | c. I am operating astern propulsion |
| _____ 4. two short blasts (Inland) | d. I intend to overtake you on your starboard side |
| | e. I doubt the safety of the maneuver |
| | f. I am overtaking you on your port side |
-
14. What signal is sounded by a vessel about to be overtaken when in agreement to an overtaking signal in international waters?
 15. What signal is sounded by a vessel about to be overtaken when in agreement to an overtaking signal in inland waters?
 16. What signal is sounded to indicate doubt as to the intentions of an overtaking vessel?
-

Self-Quiz

Questions (Continued)

17. What signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured?
 18. What signal is given when a vessel is nearing a bend or an area of a channel or fairway where other vessels may be obscured and you hear one prolonged blast?
 19. What signal is given when a vessel is leaving a dock or berth in inland waters?
 20. What should a vessel do if it reaches agreement with another vessel in a meeting, crossing, or overtaking situation by using radiotelephone?
-

Answers to Self-Quiz

Question	Answer	Rule
1	any sound signaling appliance capable of producing the prescribed blasts	32 (a)
2	about one second	32 (b)
3	from four to six seconds	32 (c)
4	a whistle and a bell	33 (a)
5	a whistle, bell, and a gong	33 (a)
6	with some other means of making an efficient sound signal	33 (b)
7	1. e 2. f 3. g 4. e 5. b 6. d	34 (a)
8	half a mile	34 (a)
9	sound the same whistle signal and take the steps necessary to effect safe passing	34 (a)(ii)
10	light signals	34 (b)
11	white, 5 miles	34 (b)(iii)
12	white or yellow, 2 miles	34 (b)(iii)
13	1. b 2. d 3. d 4. b	34 (c)
14	one prolonged, one short, one prolonged, one short	34 (c)(ii)
15	sound a similar sound signal	34 (c)(ii)

Answers to Self-Quiz

Question	Answer	Rule
16	give at least five short and rapid blasts	34 (d)
17	sound one prolonged blast	34 (e)
18	answer with one prolonged blast	34 (e)
19	sound one prolonged blast	34 (g)
20	is not obliged to sound the whistle signal, but may do so	34 (h)

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

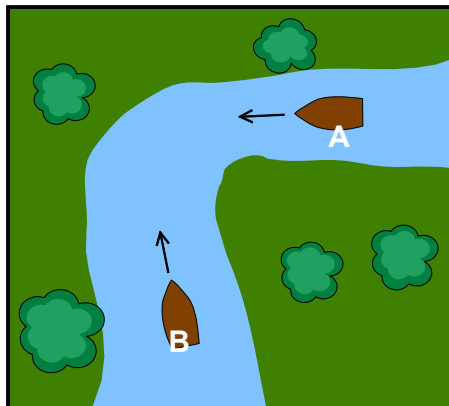
1. Any sound producing device that produces the blasts defined in Annex III is called a _____.
2. A short blast is sounded for _____ second(s).
3. A prolonged blast is sounded for _____ second(s).
4. Match the signals in column B with vessel lengths in column A. Signals may be used more than once.

Column A

- _____ 1. vessel under 12 meters
- _____ 2. vessel 12 to 100 meters
- _____ 3. vessel over 100 meters

Column B

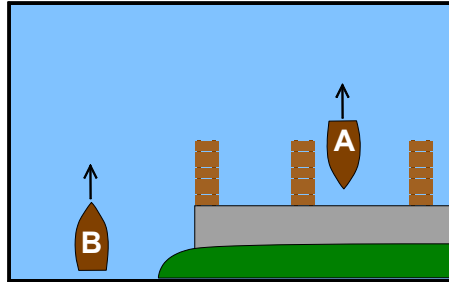
- a. any sound signaling appliance
- b. a whistle
- c. a gong
- d. a bell
5. If for any reason any vessel fails to understand the intentions of another vessel, the first vessel shall _____.
 6. In the illustration below, if vessel "B" is in inland waters, it must sound _____ blast(s).



Exercise in Applying the Rules

Questions (Continued)

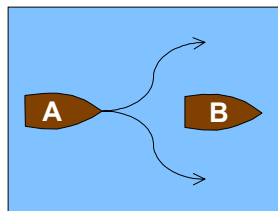
7. In the illustration below, vessel "A" is required to sound what whistle signal under (1) Inland Rules and (2) International Rules?



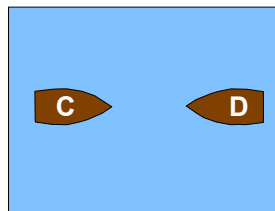
8. A maneuvering light must be visible for how many miles (1) Inland Rules, and (2) International Rules?

Use the illustrations below to answer questions 9 through 11.

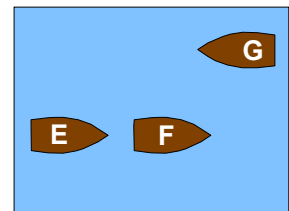
Inland Rules



International Rules



Both Rules



9. What whistle signal must vessel "A" sound to overtake vessel "B" to port?
10. What whistle signal should vessel "C" sound?
11. If in doubt, vessel "F" should sound _____.
-

Answers to Exercise

Question	Answer	Rule
1	whistle	32 (a)
2	1	32 (b)
3	4 to 6	32 (c)
4	1. a 2. b, d 3. b, c, d	33 (a), (b)
5	sound five or more short blasts	34 (d)
6	one prolonged	34 (e)
7	1. one prolong, three short 2. three short	34 (a), (g)
8	1. 5 NM 2. 2 NM	34 (b)
9	two short blasts	34 (c)
10	one short	34 (c)
11	five short, rapid blasts	34 (d)

LESSON 4 - CONTINUED

PART D - SOUND AND LIGHT SIGNALS

Overview

Introduction

This lesson deals with the sound and light signals required by vessels in restricted visibility, to attract attention, and to indicate a distress or emergency. It includes Rules 35 through 37.

Objectives

After completing this lesson, you will be able to:

- **STATE** what signal is sounded by a power-driven vessel in or near restricted visibility when making way through the water.
 - **STATE** what signal is sounded by a power-driven vessel in or near restricted visibility when underway but stopped.
 - **LIST** the six conditions when a vessel would sound one prolonged blast followed by two short blasts in or near restricted visibility.
 - **STATE** what signal is sounded by a vessel engaged in fishing when at anchor and a vessel restricted in her ability to maneuver when carrying out her work at anchor in or near restricted visibility.
 - **STATE** what signal is sounded by a manned vessel being towed in or near restricted visibility.
 - **STATE** what signal is sounded by a vessel at anchor in or near restricted visibility.
 - **STATE** what signal is sounded by a vessel of 100 meters or more in length at anchor in or near restricted visibility.
 - **STATE** what signal may be sounded by a vessel at anchor in or near restricted visibility to give warning of its position.
 - **STATE** what signal is sounded by a vessel aground in or near restricted visibility.
 - **STATE** what size vessel is not obliged to give the above-mentioned signals in or near restricted visibility.
-

Overview

Objectives (Continued)

- **STATE** what additional signal may be sounded by a pilot vessel when engaged in pilotage duty in or near restricted visibility.
 - **LIST** the five vessels that are not required to sound signals when at anchor in a special anchorage area in or near restricted visibility in inland waters.
 - **STATE** two things a vessel may do to attract attention of another vessel.
 - **STATE** what type of lights should be avoided when attracting the attention of another vessel in international waters.
 - **STATE** what type signal is authorized in addition to the distress signals described in Annex IV in inland waters.
-

Overview

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Underway in Restricted Visibility	4-28
Burdened Vessels in Restricted Visibility	4-29
Fishing/Working at Anchor in Restricted Visibility	4-30
A Vessel Towed in Restricted Visibility	4-31
At Anchor in Restricted Visibility	4-32
Aground in Restricted Visibility	4-33
Pilot Vessel in Restricted Visibility	4-34
Signals to Attract Attention and Distress Signals	4-35
Illustrations	4-37
Self-Quiz	4-39
Answers to Self-Quiz	4-40
Exercise in Applying the Rules	4-42
Answers to Exercise	4-44

Reading Assignment

READ the following pages from the “Navigation Rules” book:

Pages 118 to 125, **Rules 35-27**

Underway in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (a) and (b) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 35

HIGHLIGHT: In or near, and day or night

Rules 35 (a) through (c) are the same as International.

Rule 35 (a)

HIGHLIGHT: vessel making way through the water

UNDERLINE: not more than, and one prolonged blast

CIRCLE: 2 minutes

Making Way



One Prolonged Blast
(Not more than 2-minute intervals)

Rule 35 (b)

HIGHLIGHT: vessel underway but stopped

UNDERLINE: not more than, and two prolonged blasts, and interval of about 2 seconds

CIRCLE: 2 minutes

Not Making Way



Two Prolonged Blasts
(Not more than 2-minute intervals)

Burdened Vessels in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (c) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 35 (c)

HIGHLIGHT: not under command, and restricted in her ability to maneuver, and constrained by her draft, and sailing vessel, and engaged in fishing, and engaged in towing

UNDERLINE: not more than, and one prolonged followed by two short

CIRCLE: 2 minutes

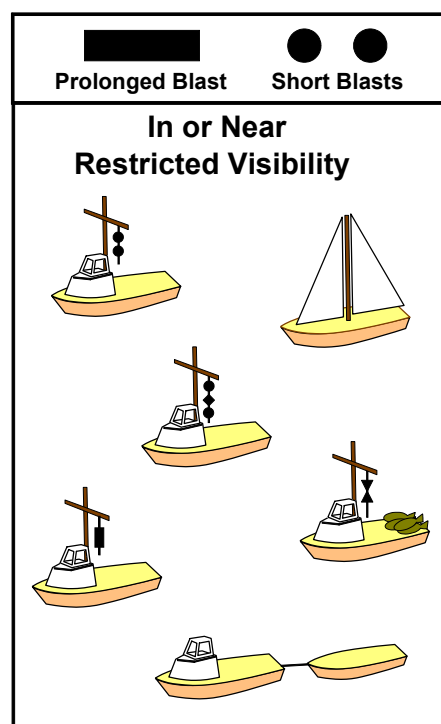
MEMORY AID: This signal is equivalent to the Morse code letter “D” (delta).

ADD: at bottom of page with a line pointing to paragraph (c)

“D” Vessels

Dead	(NUC)
Deprived	(Restricted)
Downwind	(Sail)
Dolphin	(Fish)
Drag	(Tow)

ADD: (after the paragraph)
“Vessel Constrained by Her Draft is NOT included”



Fishing/ Working at Anchor in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (d) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 35 (d)

HIGHLIGHT: engaged in fishing, and restricted in her ability to maneuver

International Rule 35 (d) is not contained in Inland Rules.

UNDERLINE: at anchor

NOTE: Vessels restricted in ability to maneuver and fishing vessels carrying out their work **at anchor** shall instead of sounding the signal for a vessel at anchor, sound the signals for these vessels underway.

A Vessel Towed in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (e) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

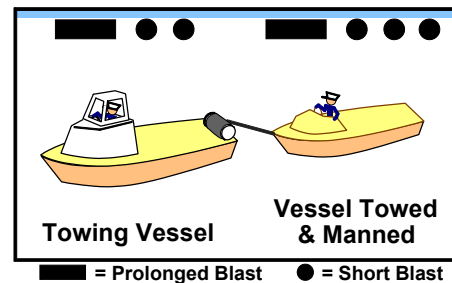
Rule 35 (e)

HIGHLIGHT: vessel towed, and last vessel

UNDERLINE: if manned, and not more than, and one prolonged, and three short blasts

CIRCLE: 2 minutes

Inland Rule 35 (d) is the same as International Rule 35 (e).



At Anchor in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (g) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 35 (g)

HIGHLIGHT: at anchor, and 100 meters or more, and to give warning

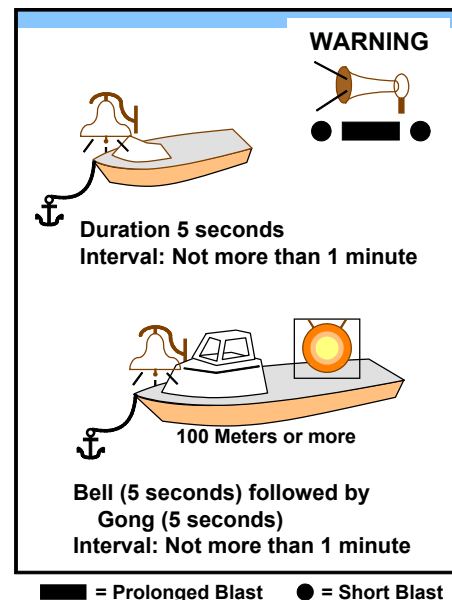
UNDERLINE: not more than, and ring the bell rapidly, and bell shall be sounded in the forepart, and immediately after the ringing of the bell the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel, and may in addition, and one short, one prolonged and one short

CIRCLE: one minute

CIRCLE: 5 seconds

MEMORY AID: The warning signal is the same as the Morse code signal “R” (romeo). It could be thought of as “Resting on anchor.”

Inland Rule 35 (f) is the same as International Rule 35 (g).



Aground in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (h) and 35 (i) in the “Navigation Rules” book.

INTERNATIONAL

INLAND

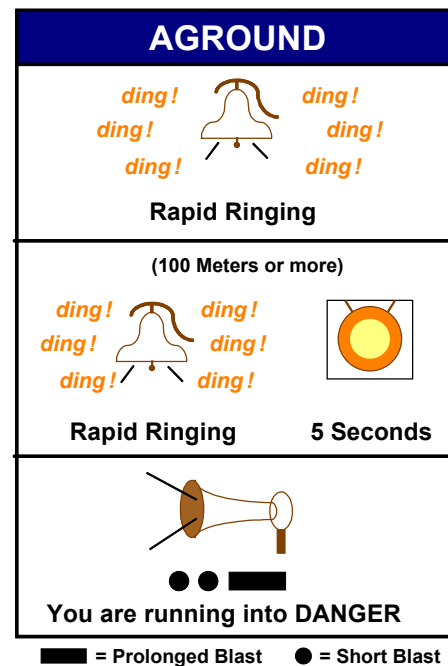
Rule 35 (h)

HIGHLIGHT: aground, and shall, in addition

UNDERLINE: bell signal and if required the gong signal, and three separate and distinct strokes on the bell immediately before and after the rapid ringing of the bell, and may in addition

NOTE: Appropriate Whistle Signal - An example of an appropriate whistle signal is Morse code signal “U,” two short blasts and one prolonged blast (you are running into danger) or other signals listed in Pub 102, “International Code of Signals.”

Inland Rule 35 (g) is the same as International Rule 35 (h).



Rule 35 (i)

HIGHLIGHT: less than

CIRCLE: 12 meters

UNDERLINE: not be obliged, and but, and shall make some other efficient sound signal, and 2 minutes

NOTE: As stated before, a vessel under 12 meters in length may have sound devices, which include but aren't limited to (cowbells, police whistles, air canister horns, etc.).

Inland Rule 35 (h) is the same as International Rule 35 (i).

Pilot Vessel in Restricted Visibility

Background

This section presents an overview of the main parts of Rule 35 (j) in the Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 35 (j)

HIGHLIGHT: pilot vessel

UNDERLINE: engaged on pilotage duty, and in addition, and identity signal, and four short blasts

CIRCLE: may

MEMORY AID: Four short blasts are like the Morse code signal “H” (hotel) which is the flag flown by a pilot vessel.

Inland Rule 35 (i) is the same as International Rule 35 (j).

SPECIAL NOTE: Inland Rule 35 (j) is not contained in International Rules.

UNDERLINE: shall not be required, and when anchored in a

HIGHLIGHT: special anchorage area

(i) **UNDERLINE:** less than

CIRCLE: 20 meters

(ii) **UNDERLINE:** barge, canal boat, scow, or other nondescript craft

Signals to Attract Attention & Distress Signals

Background

This section presents an overview of the main parts of Rule 36 and 37 in the “Navigation Rules” book.

INTERNATIONAL

INLAND

Rule 36

HIGHLIGHT: may make light or sound signals, and searchlight

UNDERLINE: cannot be mistaken for any signal, and elsewhere, and direction of the danger

NOTE: *EMBARRASS* means to cause confusion. To put it clearly; don’t blind people on the other vessels with your searchlight.

HIGHLIGHT: cannot be mistaken for any aid to navigation, and high intensity intermittent or revolving lights

UNDERLINE: shall be avoided

Inland Rule 36 is the same as International **EXCEPT** for the last two sentences in International.

Rule 37

Rule 37 is the same as International **EXCEPT** it includes high intensity white strobe.

HIGHLIGHT: high intensity white light

UNDERLINE: 50 - 70 times per minute

ADD: (below 50 - 70) “*Same number of flashes as special flashing light - so don’t confuse.*”

Illustrations


Instructions



Cut out the following illustrations and place them on the pages indicated.

On Page 120


Rule 35 (a)

Making Way






One Prolonged Blast
 (Not more than 2-minute intervals)

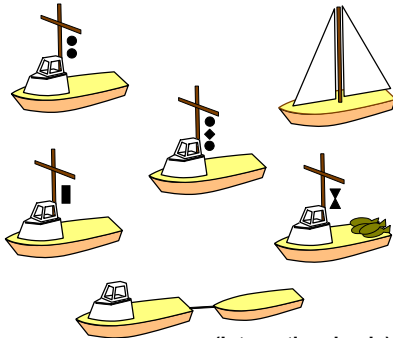
In or Near Restricted Visibility Rule 35 (c)



Prolonged Blast




Short Blasts





(International only)

Rule 35 (b)

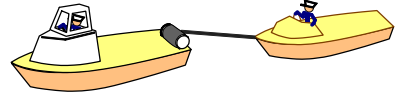
Not Making Way






Two Prolonged Blasts
 (Not more than 2-minute intervals)


On Page 121

Rule 35 (e)







Towing Vessel

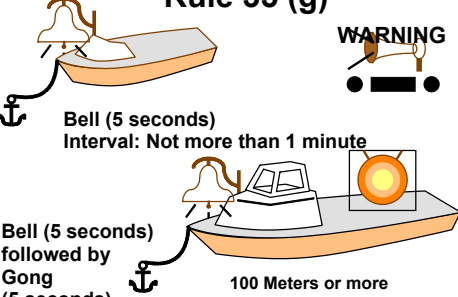


Vessel Towed & Manned

 - Prolonged Blast
  - Short Blast

On Page 122



Rule 35 (g)



Bell (5 seconds)
 Interval: Not more than 1 minute

Bell (5 seconds) followed by Gong (5 seconds)
 Interval: Not more than 1 minute

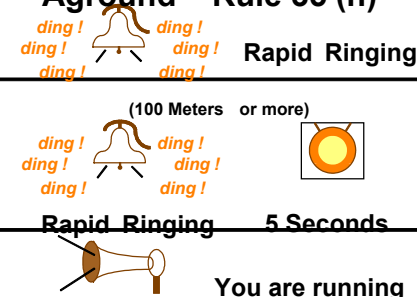
100 Meters or more

 - Prolonged Blast
  - Short Blast

Aground Rule 35 (h)



Rapid Ringing

(100 Meters or more)



Rapid Ringing **5 Seconds**

You are running into DANGER

 - Prolonged Blast
  - Short Blast

Self-Quiz

Questions

1. What signal is sounded by a power-driven vessel in or near restricted visibility when making way through the water?
 2. What signal is sounded by a power-driven vessel in or near restricted visibility when underway but stopped?
 3. List the six conditions when a vessel would sound one prolonged blast followed by two short blasts in or near restricted visibility.
 4. What signal is sounded by a vessel engaged in fishing when at anchor and a vessel restricted in her ability to maneuver when carrying out her work at anchor in or near restricted visibility?
 5. What signal does a manned vessel being towed in or near restricted visibility sound?
 6. What signal does a vessel at anchor in or near restricted visibility sound?
 7. What signal is sounded by a vessel of 100 meters or more in length at anchor in or near restricted visibility?
 8. What signal may be sounded by a vessel at anchor in or near restricted visibility to give warning of its position?
 9. What signal does a vessel aground in or near restricted visibility?
 10. What size vessel is not obliged to give the above-mentioned signals in or near restricted visibility sound?
 11. What additional signal may be sounded by a pilot vessel when engaged in pilotage duty in or near restricted visibility?
 12. List the five vessels that are not required to sound signals when at anchor in a special anchorage area in or near restricted visibility in inland waters.
 13. What two things may a vessel do to attract attention of another vessel?
 14. What two types of lights should be avoided when attracting the attention of another vessel in international waters?
 15. What type signal is authorized in addition to the distress signals described in Annex IV in inland waters?
-

Answers to Self-Quiz

Question	Answer	Rule
1	one prolonged blast at intervals of not more than 2 minutes	35 (a)
2	two prolonged blasts at intervals of not more than 2 minutes	35 (b)
3	not under command restricted in her ability to maneuver constrained by her draft (Not Inland) sailing vessel engaged in fishing engaged in towing	35 (c)
4	one prolonged followed by two short blasts	35 (d)
5	one prolonged followed by three short blasts	35 (e)
6	rapid ringing of the bell for 5 seconds, at intervals of not more than one minute apart	35 (g)
7	the bell in the forepart of the vessel and immediately after the ringing of the bell, the gong shall be sounded rapidly for about 5 seconds in the after part of the vessel	35 (g)
8	one short, one prolonged, and one short	35 (g)
9	the bell signal, the gong signal (if 100 meters or more in length), and three separate and distinct strokes on the bell immediately before and after the rapid ringing of the bell	35 (h)
10	vessel of less than 12 meters	35 (i)
11	an identity signal of four short blasts	35 (j), (i)
12	vessel less than 20 meters a barge a canal boat a scow any other nondescript craft	35 (j), (i), (ii)

Answers to Self-Quiz

Question	Answer	Rule
13	make a light or sound signal that can not be mistaken for any other signal authorized elsewhere in the Rules	36
	direct a beam or searchlight in the direction of the danger	
14	any light that can be mistaken for any aid to navigation	36
	high intensity intermittent or revolving lights such as strobe lights	
15	high intensity white light flashing at regular intervals from 50 to 70 times per minute	37

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Questions

1. Match the whistle signals in column B with the situations in column A. Whistle signals will be used only once.

<u>Column A</u>	<u>Column B</u>
_____ 1. a pilot vessel on pilot duty in fog	a. one prolong, two short
_____ 2. sailing vessel, fishing vessels, towing vessels in fog	b. one prolong, one short
_____ 3. power-driven vessel underway making way in fog	c. one prolong, one short, one prolong, one short
_____ 4. the last vessel in tow in fog (when manned)	d. two prolonged every two minutes
_____ 5. a vessel request to overtake on your port side (narrow channel International Rules)	e. one prolonged every two minutes
_____ 6. a vessel in international water leaving a pier with astern propulsion	f. one short
_____ 7. signal given to request to overtake you to starboard (narrow channel International only)	g. two short
_____ 8. I intend to leave you on my starboard side	h. one prolong, three short
_____ 9. a vessel adrift in fog	i. three short
_____ 10. a “yes” signal for International Rules	j. two prolong, one short
_____ 11. used for port-to-port meeting situations	k. two prolong, two short
_____ 12. should be answered with 5 short blasts	l. four short m. five short

Exercise in Applying the Rules

Questions (Continued)

2. Match the sound signals in column B with the situation in column A. Sound signals will be used only once.

Column A

Column B

- | | |
|---|---|
| _____ 1. a vessel under 50 meters at anchor | a. rapid ringing of a bell for 5 seconds |
| _____ 2. a vessel over 100 meters aground | b. rapid ringing of a gong for 5 seconds |
| _____ 3. a vessel over 100 meters at anchor | c. three strokes of a bell |
| _____ 4. a vessel under 50 meters aground | d. sound signals a. then b. |
| | e. sound signals c. then a. then c. again |
| | f. sound signals e. then b. |

3. Mark each signal described below as a (D) distress signal, (A) signal to attract attention, or (N) neither distress or attracting signals by an X in the appropriate column.

D	A	N	Signal
_____	_____	_____	a. strobe light (inland)
_____	_____	_____	b. flames on a vessel
_____	_____	_____	c. EPIRB
_____	_____	_____	d. shining of a searchlight
_____	_____	_____	e. U.S. flag hoisted upside down
_____	_____	_____	f. sound signals unlike those for vessels in special circumstances mentioned in previous questions
_____	_____	_____	g. four or more prolonged blasts
_____	_____	_____	h. continuous sounding of a horn
_____	_____	_____	i. "Mayday" spoken on a radio

Answers to Exercise

Question	Answer	Rule
1	1. l	35 (j)
	2. a	35 (c)
	3. e	35 (a)
	4. h	35 (e)
	5. k	34 (c)(i)
	6. i	34 (a)
	7. j	34 (c)(i)
	8. g	34 (a)(i)
	9. d	35 (b)
	10. c	34 (c)(ii)
	11. f	34 (a)
	12. b	34 (d)
2	1. a	35 (f)
	2. f	35 (g)
	3. d	35 (f)
	4. e	35 (g)

3.

D	A	N	Signal	Rule
X			a. strobe light (inland)	37
X			b. flames on a vessel	37
X			c. EPIRB	37
	X		d. shining of a searchlight	36
		X	e. U.S. flag hoisted upside down	N/A
	X		f. sound signals unlike those for vessels in special circumstances mentioned in previous questions	36
	X		g. four or more prolonged blasts	36
X			h. continuous sounding of a horn	37
X			i. "Mayday" spoken on a radio	37

LESSON 5

PART E - EXEMPTIONS AND ANNEXES

Overview

Introduction This lesson covers the exemptions and annexes as found in Part E in the “Navigation Rules” book. It contains Rule 38 and Annexes I through V.

Objectives After completing this lesson, you will be able to:

- **STATE** what vessels are entitled to permanent exemption from the Rules in international and in inland waters.
- **MATCH** the title of each annex with its number.
- **MATCH** the trawling activity with the proper light signal.
- **STATE** what additional lights a vessel fishing whose purse seine gear is hampering it may display when fishing in close proximity to other fishing vessels.
- **LIST** the seventeen signals used to indicate a distress that requires assistance in inland and international waters.
- **STATE** what the operator of each self-propelled vessel 12 meters or more in length must carry on board in inland waters.
- **STATE** when a vessel may be temporarily exempt from light and shape requirements in inland waters.
- **STATE** when a law enforcement vessel may display a flashing blue light in inland waters.
- **STATE** what light may be displayed by vessels engaged in government sanctioned public safety activities and commercial vessels performing similar functions in inland waters.
- **LIST** the four types of barges that require light displays at night and in periods of restricted visibility.
- **IDENTIFY** where to display all-round white lights.
- **DETERMINE** the color of the lights shown in an illustration of pipelines.

Overview

Annex Paragraph Numbering

In the Annexes International rules are listed by item number (i.e., 1.) and Inland rules are listed by regulation number (i.e., 84.01).

Aid to Remember Annexes

The following may be used to help remember what is contained in each of the Annexes.

Annex Number	Saying	Topic
I	<u>L</u> ove	<u>L</u> ights
II	<u>F</u> or	<u>F</u> ish
III	<u>S</u> ailors	<u>S</u> ound
IV	<u>D</u> oesn't	<u>D</u> istress
V	<u>P</u> ay	<u>P</u> ilot (Inland)

In This Lesson

This lesson reviews the following topics:

Topic	See Page
Exemptions	5-4
Positioning and Technical Details of Lights and Shapes	5-5
Additional Signals for Fishing Vessels Fishing in Close Proximity	5-6
Technical Details of Sound Signal Appliances	5-8
Distress Signals	5-9
Pilot Rules	5-10
Illustrations	5-13
Self-Quiz	5-15
Answers to Self-Quiz	5-18
Exercise in Applying the Rules	5-20
Answers to Exercise	5-22

Overview

Reading Assignment

READ the following pages from the “Navigation Rules” book:

Pages 128 to 171, **Rule 38, Annexes I through V**

Exemptions

Background

This section presents an overview of Rule 38 in the “Navigation Rules” book. Vessels built before the effective dates of the Rules were given a grace period to comply with some of the changes. However, the 4- or 9-year grace periods have expired and no longer apply.

In addition, permanent exemptions were allowed on some changes and may still be in effect on some vessels on our waterways. All vessels built after the dates the Rules became effective are not subject to these exemptions.

	INTERNATIONAL	INLAND
Rule 38	<p>HIGHLIGHT: before the entry into force of these Regulations</p> <p>ADD: (after paragraph) <i>"Effective July 15, 1977"</i></p> <p>HIGHLIGHT: (in sub-paragraphs (c), (d)(i), and (h)) permanent exemption</p>	<p>HIGHLIGHT: before the date of enactment of this Act</p> <p>ADD: (after paragraph) <i>"March 1, 1983 (Great Lakes)"</i></p> <p>HIGHLIGHT: (in sub-paragraphs (d)(i), (d)(ii), and (d)(vi)) permanently exempt, and (in sub-paragraph (d)(iv)(l)) permanent exemption</p>

Positioning and Technical Details of Lights and Shapes

Background

This section presents an overview of Annex I in the “Navigation Rules” book. In this course, the main attention is on the use of the Navigation Rules, not on the positioning and technical details of the lights and shapes. As long as you are aware of what is contained within this annex, you will be able to locate it when and if you ever need it.

List of Subsections

This annex contains the following subsections:

Definitions

Vertical positioning and spacing of lights

Horizontal positioning and spacing of lights

Details of location of direction-indicating lights for fishing vessels, dredgers, and vessels engaged in underwater operations

Screens for sidelights

Shapes

Color specification of lights

Intensity of lights

Horizontal sectors

Vertical sectors

Intensity of non-electric lights

Maneuvering light

High Speed Craft

Approval

Additional Signals for Fishing Vessels Fishing in Close Proximity

Background

This section presents an overview of Annex II of the “Navigation Rules” book. Fishing vessels will be displaying the lights described in Rule 26 (trawling - green over white and fishing - red over white). However, the following signals are used only when groups of fishing vessels are working together. They are not intended to prevent collisions at sea as are the lights used in Rule 26. If a fishing vessel is not within a group, these lights are not used.

Also, these lights are lower and not as bright as the lights prescribed in Rule 26 to avoid confusion with lights for a towing vessel, pilot vessel, vessel aground, or vessel not under command.

Annex II – 2.

INTERNATIONAL

INLAND

HIGHLIGHT: engaged in trawling

UNDERLINE: shall exhibit

(a)(i) **HIGHLIGHT:** shooting their nets

UNDERLINE: two white lights

(a)(ii) **HIGHLIGHT:** hauling their nets

UNDERLINE: one white over one red light

(a)(iii) **HIGHLIGHT:** fast upon an obstruction

UNDERLINE: two red lights

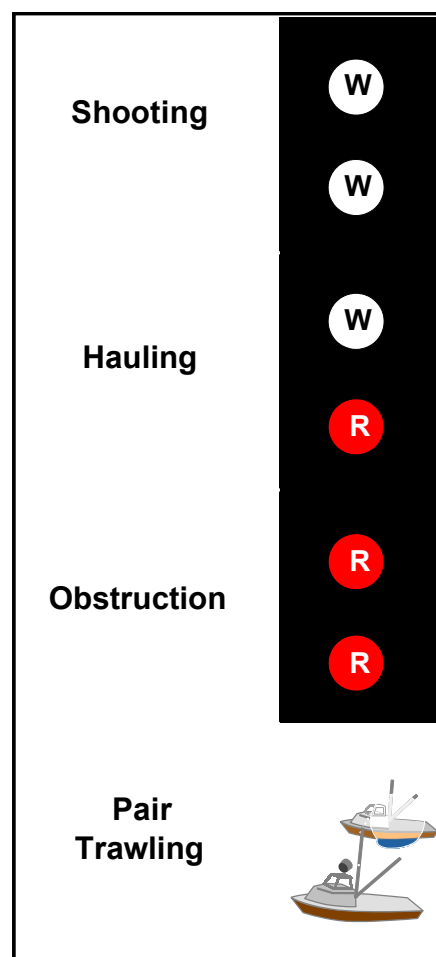
(b) **HIGHLIGHT:** pair trawling

(b)(i) **UNDERLINE:** searchlight

(b)(ii) **UNDERLINE:** the lights prescribed in 2 (a) above

Same as International, except:

UNDERLINE: may exhibit



Additional Signals for Fishing Vessels Fishing in Close Proximity

INTERNATIONAL

INLAND

Annex II – 3.

HIGHLIGHT: fishing with purse seine gear

Same as International.

UNDERLINE: may, and two yellow lights, and alternately every second, and only when, and hampered by its fishing gear



Technical Details of Sound Signal Appliances

Background

This section presents an overview of Annex III in the “Navigation Rules” book. In this lesson, the main attention is on the use of the Navigation Rules, not on the technical details of the sound signal appliances. As long as you are aware of what is contained within this annex, you will be able to locate it when and if you need it.

List of Subsections

This annex contains the following subsections:

Whistles

- Frequencies and range audibility

- Limits of fundamental frequencies

- Sound signal intensity and range of audibility

- Directional properties

- Positioning of whistles

- Fitting of more than one whistle

- Combined whistle systems

Bell or Gong

- Intensity of signal

- Construction

Approval

Distress Signals

Background

This section presents an overview of Annex IV in the “Navigation Rules” book. Distress signals are also mentioned in Rule 37.

INTERNATIONAL

INLAND

Annex IV 1. (a) - (o)

HIGHLIGHT: gun, and fog-signalling, and red stars, and , and , and , and square flag and ball, and flames, and parachute flare, and orange-colored smoke, and arms, and radiotelegraph alarm, and radiotelephone alarm, and radio beacons, and radiocommunications

(p) **HIGHLIGHT:** high intensity white light

Annex IV – 2.

ADD: (in space below paragraph 2.) *Only use these signals when you have a **real** distress.*

Same as International.

Annex IV – 3.

HIGHLIGHT: International Code of Signals, and orange-colored canvas, and dye marker

Same as International.

NOTE: Rule 37 illustrates the distress signals discussed in this annex.

Pilot Rules

Background

This section presents an overview of Annex V in the “Navigation Rules” book. These rules are contained in Inland Rules only.

Copy of Rules – 88.05

HIGHLIGHT: 12 meters or more in length

UNDERLINE: shall carry, and Inland Navigation Rules

Temporary Exemption – 88.09

HIGHLIGHT: lights, and may be lowered

UNDERLINE: pass under a bridge

Law Enforcement Vessels – 88.11

HIGHLIGHT: Law enforcement vessels

UNDERLINE: flashing blue light, and engaged in direct law enforcement or public safety activities

Public Safety Activities – 88.12

HIGHLIGHT: engaged in government sanctioned public safety activities, and no special privilege

UNDERLINE: alternately flashing red and yellow light signal

Pilot Rules

Lights on Moored Barges – 88.13

HIGHLIGHT: (a) barges, and (a)(1) projecting, and channel, and (a)(2) reduces, and width of any channel to less than 80 meters, and (a)(3) groups more than two barges, and over 25 meters, and (a)(4) not moored parallel

UNDERLINE: (b) two unobstructed all-round white lights, and at least one nautical mile

HIGHLIGHT: (c) barge or a group of barges, and anchor, and made fast

HIGHLIGHT: (c)(1) group formation, and lighted, and outboard corners

HIGHLIGHT: (c)(2) single barge moored in water, and lights, and corner extremities

HIGHLIGHT: (c)(3) barges moored in group formation, moored in water, and lights, and corner extremities

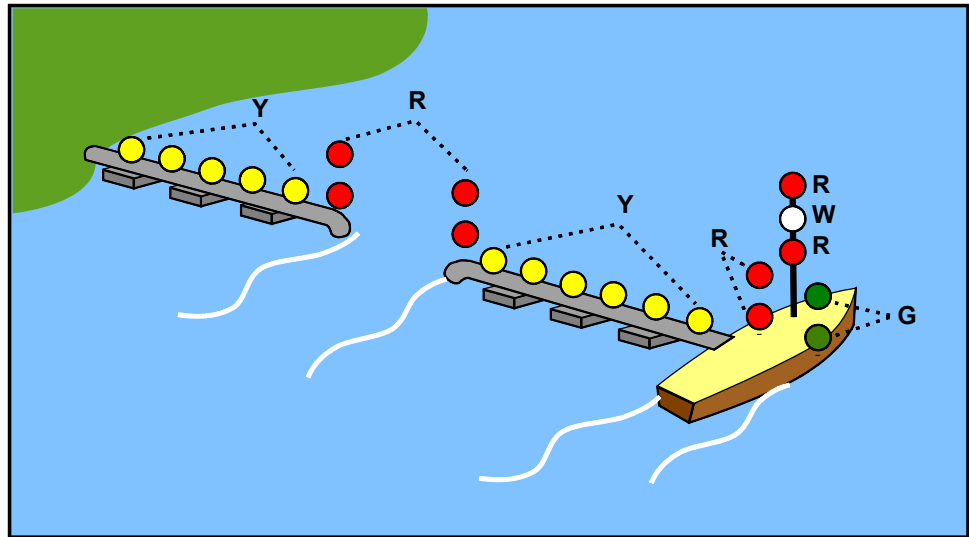
HIGHLIGHT: (d) are exempt, and (e)

Pilot Rules

Lights on Dredge Pipelines – 88.15

HIGHLIGHT: Dredge pipelines, and (a)(1) 50 to 70 times, and (a)(2) all around, and (a)(3) at least 2 miles, and (a)(4) 1 and not more than 3.5 meters, and (a)(5) equally spaced, and (a)(6) Not more than 10 meters apart, and crosses a navigable channel, and does not cross, and sufficient in number

UNDERLINE: (a) One row of yellow lights, and (b) Two red lights, and each end of the pipeline, and (b)(1) all around, and (b)(2) at least 2 miles, and (b)(3) meter apart

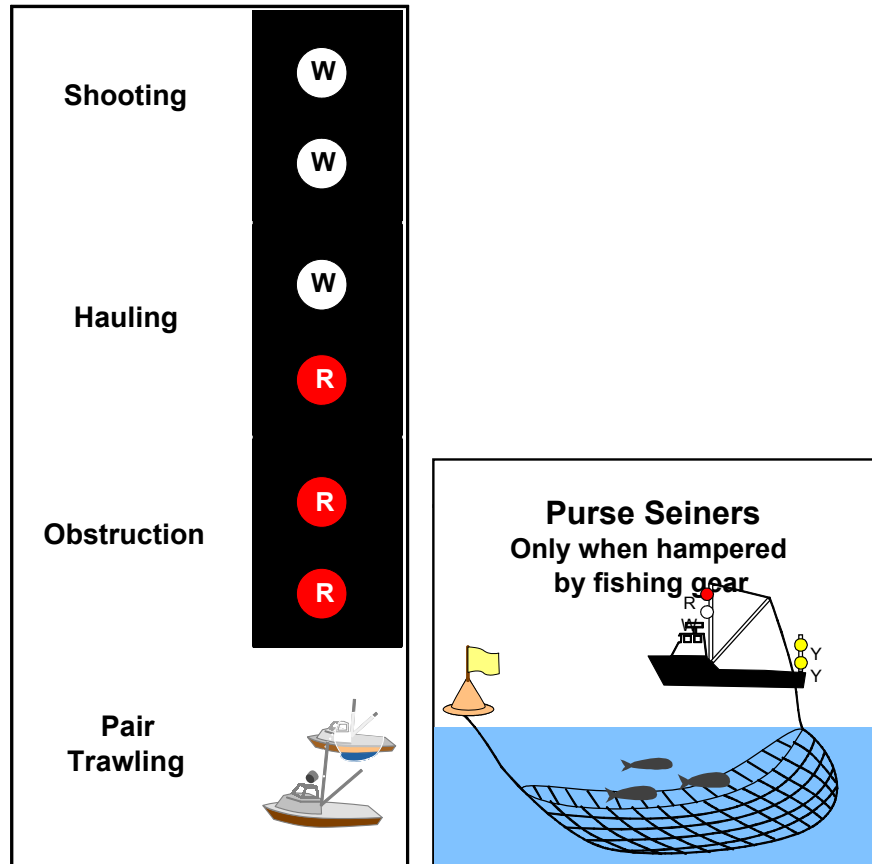


Illustrations

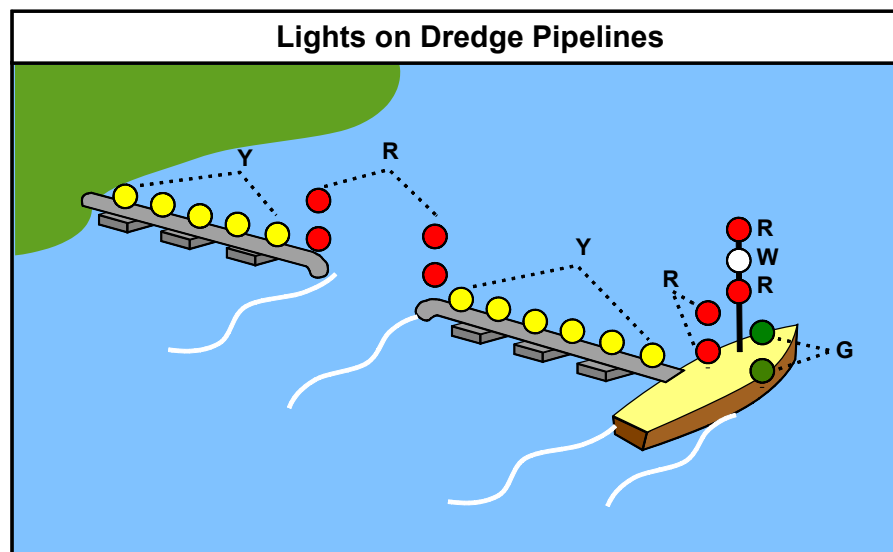
Instructions

Cut out the following illustrations and place them on the pages indicated.

On Page 150



On Page 173



Self-Quiz

Questions

1. What vessels are entitled to permanent exemptions from the Rules in international waters?
2. What vessels are entitled to permanent exemptions from the Rules in inland waters?
3. Match the title of each annex in column B with the annex number in column A.

Column A

Column B

- | | |
|--------------------|--|
| _____ 1. Annex I | a. Distress signals |
| _____ 2. Annex II | b. Additional signals for fishing vessels fishing in close proximity |
| _____ 3. Annex III | c. Lines of demarcation |
| _____ 4. Annex IV | d. Positioning and technical details of lights and shapes |
| _____ 5. Annex V | e. Pilot rules |
| | f. Technical details of sound signal appliances |
4. Match the trawling activity in column A with the proper light signal in column B.

Column A

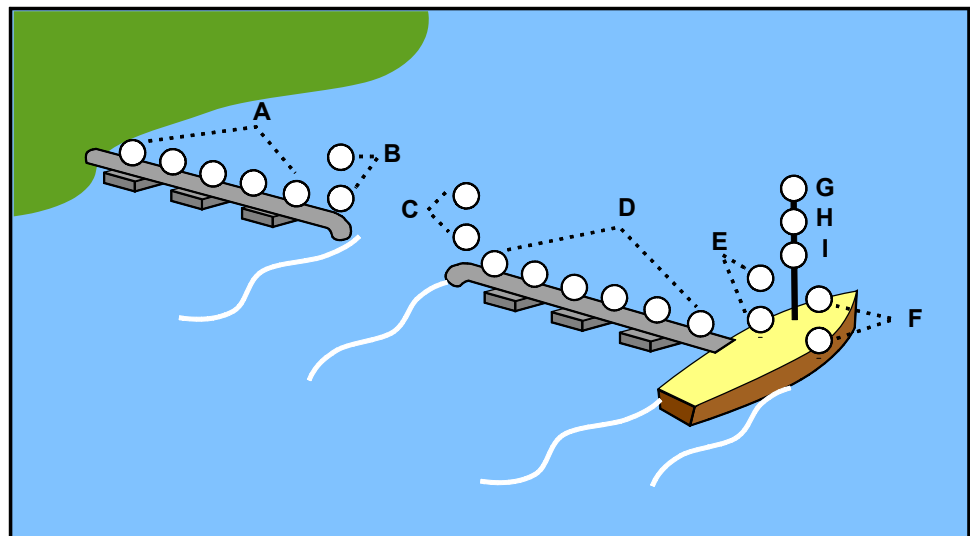
Column B

- | | |
|-----------------------------------|---------------------------------|
| _____ 1. Fast upon an obstruction | a. searchlight |
| _____ 2. Shooting their nets | b. one red over one white light |
| _____ 3. Pair trawling | c. two red lights |
| _____ 4. Hauling their nets | d. one white over one red light |
| | e. two white lights |
-

Self-Quiz

Questions (Continued)

5. What additional lights may a vessel fishing whose purse seine gear is hampering it display when fishing in close proximity to other fishing vessels?
6. List the seventeen signals used to indicate a distress that requires assistance in inland and international waters.
7. What must the operator of each self-propelled vessel 12 meters or more in length carry on board in inland waters?
8. When may a vessel be temporarily exempt from light and shape requirements in inland waters?
9. When may a law enforcement vessel display a flashing blue light in inland waters?
10. What light may be displayed by vessels engaged in government sanctioned public safety activities and commercial vessels performing similar functions in inland waters?
11. List the four types of barges that require light displays at night and in periods of restricted visibility.
12. What color should the lights be in the illustration below of dredge pipelines?



Answers to Self-Quiz

Question	Answer	Rule
1	vessels built prior to 15 July, 1977	38
2	vessels built prior to 24 December, 1980 and vessels built prior to 1 March, 1983 (on Great Lakes)	38
3	1. d 2. b 3. f 4. a 5. e	Annexes I –V
4	1. c 2. e 3. a 4. d	Annex II
5	two yellow lights flashing alternately every second	Annex II
6	1. gun at intervals of about a minute 2. fog signal sounded continuously 3. rockets or shells, throwing red stars one at a time 4. radiotelegraphy signal consisting of (SOS) 5. radiotelephony signal "MAYDAY" 6. international signal N.C. 7. square flag having above or below it a ball 8. flames on a vessel 9. red rocket parachute flare or red hand flare 10. orange smoke 11. outstretched arms being raised and lowered 12. radiotelegraph alarm 13. radiotelephone alarm 14. EPIRB signal 15. radiocommunication system approved signal 16. orange-colored canvas with a black square and circle 17. dye marker	Annex IV
7	a copy of Inland Navigation Rules	Annex V
8	when operating under bridges that make it necessary to lower the lights and shapes	Annex V

Answers to Self-Quiz

Question	Answer	Rule
9	when engaged in direct law enforcement or public safety activities	Annex V
10	an alternately flashing red and yellow light signal	Annex V
11	1. barge projecting into a buoyed or restricted channel 2. barge so moored that it reduces the available width of any channel to less than 80 meters 3. barges moored in groups 4. barge not moored parallel to the bank or dock	Annex V
12	a. Yellow b. Red c. Red d. Yellow e. Red f. Green g. Red h. White i. Red	Annex V

Exercise in Applying the Rules

Introduction

This section provides an opportunity to take the rules presented in the previous sections and apply them to situations you may encounter concerning Rules of the Road.

Question

1. From the list below, select the signals that are listed in Annex IV as distress signals.
 - a. the Morse code group “SOS” on radiotelegraphy
 - b. the letters “NC” in international code
 - c. green star shell flares
 - d. five or more horn blasts
 - e. rapid firing of a gun for 1 minute
 - f. EPIRB
 - g. inverted U.S. flag or ensign
 - h. any flames from a vessel
-

Answers to Exercise

Question	Answer	Rule
1	a, b, f, h	Annex IV

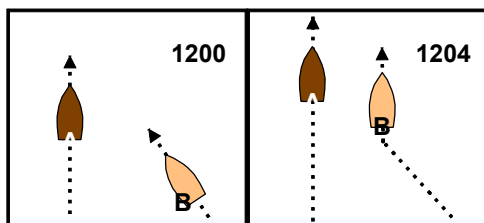
Appendix A

PAMPHLET REVIEW QUIZ

1. As near as safe and practicable in a narrow channel, power-driven vessels must _____.

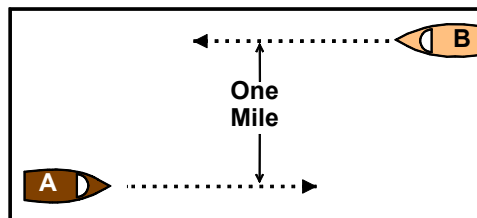
- A. stay in the middle
- B. keep to the left
- C. keep to the right
- D. keep to the windward side

2. At 1200 you are on vessel A and observe vessel B 30° abaft your starboard beam. At 1204 the bearing between the two vessels alters as shown. You are _____.



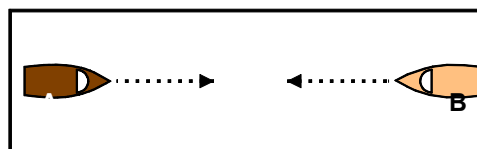
- A. now the give-way vessel in a crossing situation
- B. now the stand-on vessel in a crossing situation
- C. still the stand-on vessel as in the original overtaking situation
- D. still the give-way vessel as in the original overtaking situation

3. In a meeting situation, vessel A _____.



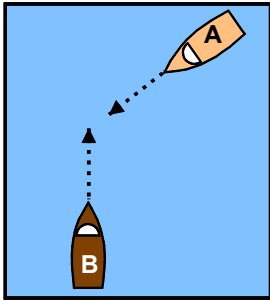
- A. may continue on course and speed
- B. must alter course to the left
- C. must alter course to the right
- D. must back down

4. In inland waters, A and B are in sight of one another. Which statement is correct?



- A. A and B should each alter course to the left, each sounding one short blast on the whistle
- B. A and B should each alter course to the right and sound whistle signals
- C. A or B should sound one blast and wait for a response before altering course
- D. A should alter course to the right and B should maintain course

Use the illustration below to answer questions 5 through 7.



5. The two vessels are governed by the _____ rule.

- A. overtaking
- B. meeting end on
- C. crossing
- D. approaching

6. If you are navigating vessel A, you should _____.

- A. stop
- B. cross ahead of B
- C. back down on engines
- D. go under the stern of B

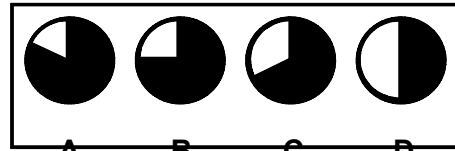
7. If you are navigating vessel B, you should NOT _____.

- A. stop
- B. hold course and speed
- C. back down on engines
- D. go under stern of A

8. Every vessel directed by the Rules to keep out of the way of another vessel must, so far as possible, take positive early action to comply with this obligation and must, if the circumstances of the case admit, _____.

- A. avoid crossing ahead of the other vessel
- B. avoid passing astern of the other vessel
- C. sound one prolonged blast to indicate compliance
- D. alter course to starboard and pass down the other vessel's port side

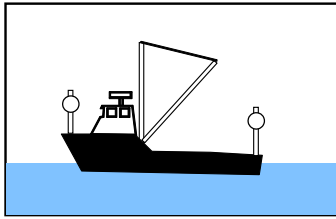
9. Which circle has a white sector which best shows the arc of visibility of the red sidelight?



10. Two yellow lights in a vertical line indicate a vessel _____.

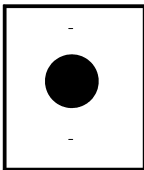
- A. pushing ahead or towing alongside (inland waters)
- B. pushing ahead or towing alongside (international waters)
- C. towing astern (inland waters)
- D. towing astern (international waters)

11. At night the two white lights displayed below are required and indicate that the vessel is _____.



- A. over 50 meters in length and is at anchor
- B. under 50 meters in length and is at anchor
- C. not under command
- D. aground

12. The day shape below indicates the vessel is _____.



- A. anchored
- B. dredging
- C. handling buoys
- D. engaged in hydrographic survey

13. When nearing a bend where the channel around the bend is obscured, a vessel must sound _____ blast(s).

- A. one prolonged
- B. one long
- C. five short
- D. three short

14. In inland waters and in sight of another vessel, a power-driven vessel should sound one short blast when _____.

- A. altering course to port
- B. altering course to starboard
- C. its intention is to leave the other ship on its port side
- D. its intention is to leave the other ship on its starboard side

15. A power-driven vessel, which under the Rules is to keep her course and speed, is in sight of another vessel and is in doubt whether sufficient action is being taken by the other vessel to avert collision. It may indicate doubt by giving AT LEAST _____ short and rapid blasts.

- A. two
- B. three
- C. four
- D. five

16. You are overtaking another vessel in inland waters. Before passing it on its port side, you must sound _____.

- A. one short blast and be answered by one short blast
- B. two short blasts and be answered by two short blasts
- C. one short blast
- D. three short blasts

17. In fog, a bell forward and a gong aft must be sounded by an anchored vessel whose length is AT LEAST _____ meters.

- A. 50
- B. 100
- C. 150
- D. 300

18. A power-driven vessel underway in inland waters in fog with no way on makes _____ minute(s).

- A. one prolonged blast every 2
- B. two prolonged blasts every 2
- C. one prolonged blast every
- D. one short blast every

19. Approaching an anchorage in fog, you hear one short, one prolonged, and one short blast in that sequence. This indicates a/an _____.

- A. vessel towing
- B. vessel stopped
- C. vessel not under command
- D. anchored vessel warning you of its position

20. A vessel in distress and requiring assistance may indicate the fact by _____.

- A. sounding short blasts on the whistle
- B. sounding one long and four short blasts on the whistle
- C. continuously sounding with any fog-signaling apparatus
- D. hoisting three balls in a conspicuous place

Appendix B

PAMPHLET REVIEW QUIZ – ANSWER KEY

QUESTION	ANSWER	REFERENCE	QUESTION	ANSWER	REFERENCE
1.	C	9 (a)	11.	A	30 (a)(i)(ii)
2.	C	13 (d)	12.	A	30
3.	A	14	13.	A	34 (e)
4.	B	14, 34	14.	C	34 (e)
5.	C	15 (a)	15.	D	34 (d)
6.	B	15 (a)	16.	B	34 (c)
7.	B	15 (a)	17.	B	35 (f)
8.	A	15, 16	18.	B	35 (Inland)
9.	C	21 (b)	19.	D	35 (f)
10.	A	24 (c)(iii)	20.	C	Annex IV

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Suggestions and Corrections

Please note your suggestions, corrections, and comments below.

Page	Location on Page	What Correction is Needed

Your Comments

If you were writing this pamphlet, what improvements would you make? What was good about it? What did you not like about it? Please be specific in your comments/suggestions.

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